THE

WORKS

OF THE LATE

JOHN GREGORY, M.D.

VOLUME THIRD.

LECTURES

ON THE

Duties and Qualifications

OF A

PHYSICIAN.

By JOHN GREGORY, M.D. F.R.S.

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MDCCLXXXVIII.

TO

Sir JOHN PRINGLE, Bart.

PHYSICIAN TO HER MAJESTY.

SIR,

WITH great pleaſure I embrace this opportunity of giving you a public teſtimony of my ſincere attachment. There is, beſides, a peculiar propriety in addreſſing to you the following Lectures, intended for the uſe of the young ſtudents in phyſic, as it affords me a very proper occaſion of pointing out to their imitation,

imitation, a Gentleman, whoſe honour and probity, whoſe genius and learning, have done ſo much credit to the profeſſion, and whoſe ardent zeal and unwearied labours have ſo much contributed to its advancement.

I am, with the ſincereſt reſpect and eſteem

SIR,

Your obliged and
Faithful Servant,

College of
Edinburgh,
May 19. 1772.

JOHN GREGORY.

ADVERTISEMENT,

(*Prefixed to the Second Editiou of this Work.*)

THE following Lectures have been read in the Univerſity of Edinburgh for ſeveral years paſt, and as many tranſcripts of them were, from time to time, taken by my pupils, one of them found its way to the preſs in the negligent dreſs in which they were firſt exhibited. The Public, however, having been pleaſed to afford them a favourable reception even in that form, I thought it a piece of juſtice I owed to its candour, to give them a thorough reviſal, and to make them, as far as I was able, more worthy of its acceptance. This I have now done. I hope they will be found of ſome uſe not only to ſtudents, but to the younger part of

of the Faculty; and that my ſincere endeavours to promote the true intereſts of Phyſic, however ineffectual, will induce my brethren to overlook any defects that, after all my care, may ſtill be found in them.

LECTURE

LECTURE I.

Utility and dignity of the medical art.—Reasons why physicians have been sometimes exposed to ridicule.—Requisites to form the character of a physician.—Opportunities which the profession of medicine gives for the exertion of genius, and for the exercise of humanity.—Inquiry into the duties and offices of a physician.—Division of the subject.—The genius, understanding, and temper required in a physician.—Difficulties attending the profession.—Command of temper, presence of mind, and resolution, necessary.—Moral qualities.—Humanity.—Gentleness of manners.—Flexibility.—Particular tenderness due to nervous patients.—Frequent contrast between the manners of a physician when first setting out, and

when eſtabliſhed in practice.—Obligations to diſcretion, ſecrecy and honour.—Temperance, ſobriety.—Candour.—Openneſs to conviction.

THE deſign of the profeſſion which I have the honour to hold in this univerſity, is to explain the *practice* of *medicine*, by which I underſtand, the art of preſerving health, of prolonging life, and of curing diſeaſes. This is an art of great extent and importance; and for this all your former medical ſtudies were intended to qualify you.

But, before I enter upon the particular buſineſs of this courſe, I ſhall, agreeably to cuſtom, give ſome preliminary lectures, in which I ſhall lay before you ſome conſiderations, which, though not ſtrictly belonging to my ſubject, yet deſerve the attention

attention of all thoſe who would practiſe medicine.—On this occaſion I think it needleſs to dwell on the utility and dignity of the medical art. Its utility was never ſeriouſly called in queſtion; every man who ſuffers pain or ſickneſs will very gratefully acknowledge the uſefulneſs of an art which gives him relief. People may diſpute, whether phyſic, on the whole, does more good or harm to mankind; juſt as they may diſpute, whether the faculty of reaſon, conſidering how it is often perverted, really contributes to make human life more or leſs happy; whether a vigorous conſtitution and an independent fortune are bleſſings or curſes to thoſe who poſſeſs them; whether the arts and ſciences in general have proved beneficial or detrimental to mankind.—Such queſtions afford opportunities for the diſplay of eloquence, and

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for ſaying plauſible and ingenious things; but ſtill nobody doubts of the real and ſubſtantial advantages attending thoſe acquiſitions, if applied to their natural and proper uſes. Much wit has indeed, in all ages, been exerted upon our profeſſion; but, after all, we ſhall find that this ridicule has rather been employed againſt phyſicians than phyſic. There are ſome reaſons for this ſufficiently obvious. Phyſicians, conſidered as a body of men, who live by medicine as a profeſſion, have an intereſt ſeparate and diſtinct from the honour of the ſcience. In purſuit of this intereſt, ſome have acted with candour, with honour, with the ingenuous and liberal manners of gentlemen. Conſcious of their own worth, they diſdained every artifice, and depended for ſucceſs on their real merit. But ſuch men are not the moſt numerous

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in any profeſſion. Some impelled by neceſſity, ſome ſtimulated by vanity, and others anxious to conceal ignorance, have had recourſe to various mean and unworthy arts to raiſe their importance among the ignorant, who are always the moſt numerous part of mankind. Some of theſe arts have been an affectation of myſtery in all their writings and converſations relating to their profeſſion; an affectation of knowledge, inſcrutable to all, except the adepts in the ſcience; an air of perfect confidence in their own ſkill and abilities; and a demeanor ſolemn, contemptuous, and highly expreſſive of ſelf-ſufficiency. Theſe arts, however well they might ſucceed with the reſt of mankind, could not eſcape the cenſure of the more judicious, nor elude the ridicule of men of wit and humour. The ſtage, in particular, has

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uſed freedom with the profeſſors of the ſalutary art; but it is evident, that moſt of the ſatire is levelled againſt the particular notions, or manners of individuals, and not againſt the ſcience itſelf.

Of the dignity of the profeſſion I need ſay little. I ſuppoſe you are well ſatisfied that you have choſen a reputable one. Whatever may have been the pride or caprices of a few countries, it has generally been looked upon, and with good reaſon, as one of the moſt liberal. To excel in it requires a greater compaſs of learning than is neceſſary in any other. A knowledge of mathematicks, at leaſt of the elementary parts of them, of natural hiſtory, and natural philoſophy, are eſſentially connected with it; as well as the ſciences of anatomy, botany, and chemiſtry, which are indeed its very foundations.

foundations. There are likewiſe ſome parts of knowledge, which, though not abſolutely neceſſary to the ſucceſsful practice of medicine, are yet ſo uſeful, that no phyſician, who has had a regular education, is found without them; ſuch are, an acquaintance with the Latin, Greek, and French languages. If you add to this, that knowledge of men, and of manners, which a phyſician naturally and inſenſibly acquires by an extenſive intercourſe with mankind, I think it will evidently appear, that no profeſſion requires a greater variety of liberal accompliſhments than that of phyſic. This ſufficiently eſtabliſhes its dignity: I ſay, its dignity, if that is to be eſtimated by its real uſefulneſs to mankind, and by the variety of talents neceſſary to practiſe it with ſucceſs and reputation.

We have indeed much reaſon to be pleaſed with the honourable point of view in which our profeſſion is regarded in every part of the Britiſh dominions. They who have ſeen in how contemptible a light ſome of its branches are conſidered in other countries of Europe, will feel more ſenſibly the juſt regard paid to them here. One happy conſequence, among many others, which reſults from this, is, that gentlemen of the beſt families, diſtinguiſhed for their ſpirit and their genius, often apply to the ſtudy of medicine; and the liberal and ingenuous manners, generally found in men well born and genteelly educated, reflect an additional dignity on the profeſſion.

Beſides the general conſideration of the utility and dignity of the ſcience of medicine, it may be conſidered in two different views.

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In the firſt place, as preſenting a very ample field for the exertion of genius.—The great extent of the ſubject, and a variety of cauſes, which I ſhall afterwards endeavour to explain, have left it imperfect in many of its parts; and indeed there are ſome in it hitherto unexplored.

In the ſecond place, medicine preſents a no leſs extenſive field for the exerciſe of humanity. A phyſician has numberleſs opportunities of giving that relief to diſtreſs, which is not to be purchaſed by the wealth of India. This, to a benevolent mind, muſt be one of the greateſt pleaſures. But, beſides the good which a phyſician has it often in his power to do, in conſequence of ſkill in his profeſſion, there are many occaſions that call for his aſſiſtance as a man, as a man who feels for the misfortunes of his

fellow creatures. In this reſpect he has many opportunities of diſplaying patience, good-nature, generoſity, compaſſion, and all the gentler virtues that do honour to human nature. The faculty has often been reproached with hardneſs of heart, occaſioned, as is ſuppoſed, by their being ſo much converſant with human miſery. I hope and believe the charge is unjuſt; for habit may beget a command of temper, and a ſeeming compoſure which is often miſtaken for abſolute inſenſibility. But, by the way, I muſt obſerve, that, when this inſenſibility is real, it is a misfortune to a phyſician, as it deprives him of one of the moſt natural and powerful incitements to exert himſelf for the relief of his patient. On the other hand, a phyſician of too much ſenſibility may be rendered incapable of doing his duty from anxiety

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and exceſs of ſympathy, which cloud his underſtanding, depreſs his ſpirit, and prevent him from acting with that ſteadineſs and vigour, upon which perhaps the life of his patient in a great meaſure depends.

This naturally leads me to make ſome obſervations on the duties and office of a phyſician; a ſubject of great importance, but perhaps of ſo delicate a nature as makes it difficult for one of the profeſſion to treat of it with proper freedom. I ſhall, however, attempt to do it, without any reſerve. The difficulty of treating this ſubject in ſuch a manner as to give no offence ariſes from hence, that medicine may be conſidered either as an ar the moſt beneficial and important to mankind, or as a trade by which a conſiderable body of men gain their ſubſiſtence. Theſe two views, though diſtinct, are far

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from being incompatible, though in fact they are too often made ſo. I ſhall endeavour to ſet this matter in ſuch a light as may ſhew that the ſyſtem of conduct in a phyſician, which tends moſt to the advancement of his art, is ſuch as will moſt effectually maintain the true dignity and honour of the profeſſion, and even promote the private intereſt of ſuch of its members as are men of real capacity and merit. I am under leſs apprehenſion of diſcuſſing this ſubject before gentlemen at your time of life, than if you were further advanced in years. Youth indeed is the ſeaſon when every ſentiment of liberty, of generoſity, and of candour, moſt eaſily find their way to the heart. If they do not reach it then, they never will afterwards. Age may improve the underſtanding by acceſſions of knowledge and experience; whilſt at the ſame time

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that warmth of temper and imagination, which ſo often miſlead the judgment, gradually abate. But it unfortunately happens, that this very circumſtance attending the decline of life, which in ſome reſpects improves the underſtanding, in others throws a damp upon genius, checks the ardent purſuit of ſcience and truth, and ſhuts the heart againſt every manly, enlarged, and generous ſentiment.

In the proſecution of this ſubject, I ſhall, in the firſt place, conſider what kind of genius, underſtanding, and temper naturally fit a man for being a phyſician.—In the ſecond place, what are the moral qualities to be expected from him in the exerciſe of his profeſſion. viz. the obligation to humanity, patience, attention, diſcretion, ſecrecy, and honour, which he lies under to his patients.—

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In the third place, I ſhall take notice of the decorums and attentions peculiarly incumbent on him as a phyſician, and which tend moſt effectually to ſupport the dignity of the profeſſion; as likewiſe the general propriety of his manners, his behaviour to his patients, to his brethren, to ſurgeons, and to apothecaries.—In the fourth place, I ſhall particularly deſcribe that courſe of education which is neceſſary for qualifying a phyſician to practiſe with ſucceſs and reputation; and ſhall, at the ſame time, mention thoſe ornamental qualifications expected from the phyſician as a gentleman of a liberal education, and without which it is difficult to ſupport the honour and rank of the profeſſion.

I begin with an inquiry into the genius, underſtanding, and temper, which naturally

naturally fit a man for being a phyſician.

Perhaps no profeſſion requires ſo comprehenſive a mind as medicine. In the other learned profeſſions, conſidered as ſciences, there is a certain eſtabliſhed ſtandard, certain fixed laws and ſtatutes, to which every queſtion muſt conſtantly refer, and by which it muſt be determined. A knowledge of this eſtabliſhed authority may be attained by aſſiduous application and a good memory. There is little room left for the diſplay of genius, where invention cannot add, nor judgment improve; becauſe the eſtabliſhed laws, whether right or wrong, muſt be ſubmitted to. The only exerciſe for ingenuity, is in caſes where it does not clearly appear what the laws are. But even then, as diſputable points muſt be referred to the determination of judges, whoſe

whoſe opinions, being formed from various circumſtantial combinations, frequently differ, there is no criterion by which the ingenious reaſoner can be judged; and his concluſions, whether well or ill drawn, muſt ſtill remain undecided. The caſe is very different in medicine. There we have no eſtabliſhed authority to which we can refer in doubtful caſes. Every phyſician muſt reſt on his own judgment, which appeals for its rectitude to nature and experience alone. Among the infinite variety of facts and theories with which his memory has been filled in the courſe of a liberal education, it is his buſineſs to make a judicious ſeparation between thoſe founded in nature and experience, and thoſe which owe their birth to ignorance, fraud, or the capricious ſyſtems of a heated and deluded imagination. He will likewiſe find it

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neceſſary to diſtinguiſh between important facts, and ſuch as, though they may be founded in truth, are notwithſtanding trivial or utterly uſeleſs to the main ends of his profeſſion. Suppoſing all theſe difficulties ſurmounted, he will find it no eaſy matter to apply his knowledge to practcic. In teaching a ſyſtem of the practcie of phyſic, every diſeaſe muſt be conſidered ſeparately, and as exiſting by itſelf; but in fact diſeaſes are found complicated in endleſs varieties, which no ſyſtem has hitherto been able to comprehend. This occaſions an embarraſſment to a young practitioner, which nothing can remove but a habit of nice diſcernment, a quickneſs of apprehenſion which enables him to perceive real analogies, and, what is rarely united with this, a ſolidity of judgment, which ſecures him from being deceived by imaginary ones.

A ſtudent of much fancy and ſome learning has no idea of this difficulty. In the pride of his heart he fancies every diſeaſe muſt fly before him ; he thinks he not only knows the proximate cauſes and indications of cure in all diſtempers, but a variety of remedies that will exactly anſwer them. It will be unfortunate, however, for his patients, if a little experience does not humble this pride, and ſatisfy him that in many caſes he neither knows the proximate cauſes nor the indications of cure, nor how to fulfil theſe indications when he does know them ; or ſhew him, what is equally humiliating, that the indications are different and contradictory. In this ſituation his boaſted ſcience muſt ſtoop, perhaps, for ſome time, to be an idle ſpectator, or to palliate the violence of particular ſymptoms, or to proceed with the utmoſt fear and diffi-

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dence, with ſuch lights as he can receive from a precarious analogy. Such are the difficulties which a phyſician has to encounter in his early practcie; to conquer which is required, beſides the qualifications of a proper education, the concurrence of a penetrating genius, and of a clear ſolid judgment; and, in many caſes, of a quickneſs of apprehenſion, inſtantaneouſly to perceive where the greateſt probability of ſucceſs lies, and of reſolution to act accordingly.

But, although a phyſician ſhould poſſeſs that enlarged medical genius, which I have juſt now deſcribed, yet talents of another kind are alſo requiſite. A phyſician has not only for an object, the improvement of his own mind, but he muſt ſtudy the temper, and ſtruggle with the prejudices of his patient, of his relations,

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and of the world in general; nay, he muſt guard himſelf againſt the ill offices of thoſe, whoſe intereſt interferes with his; and it unfortunately happens, that the only judges of his medical merit, are thoſe who have ſiniſter views in concealing or depreciating it. Hence appears the neceſſity of a phyſician's having a large ſhare of good ſenſe, and knowledge of the world, as well as a medical genius and learning.

Such are the genius and talents required in a phyſician; but a certain command of the temper and paſſions, either natural or acquired, muſt be added, in order to give them their full advantage. Sudden emergencies occur in practice, and diſeaſes often take unexpected turns, which are apt to flutter the ſpirits of a man of lively parts and of a warm temper.

Accidents

Aidents of this kind may affect his judgment in ſuch a manner as to unfit him for diſcerning what is proper to be done, or if he does percieve it, may nevertheleſs render him irreſolute. Yet ſuch occaſions call for the quickeſt diſcernment and the ſteadieſt and moſt reſolute conduct; and the more, as the ſick ſo readily take the alarm, when they diſcover any diffidence in their phyſician. The weakneſſes too and bad behaviour of patients, and a number of little difficulties and contradictions which every phyſician muſt encounter in his practice, are apt to ruffle his temper, and conſequently to cloud his judgment, and make him forget propriety and decency of behaviour. Hence appears the advantage of a phyſician's poſſeſſing preſence of mind, compoſure, ſteadineſs, and an appearance of reſolution, even in caſes where, in his own judgment,

ment, he is fully ſenſible of the difficulty.

I come now to mention the moral qualities peculiarly required in the character of a phyſician. The chief of theſe is humanity; that ſenſibility of heart which makes us feel for the diſtreſſes of our fellow creatures, and which of conſequence incites us in the moſt powerful manner to relieve them. Sympathy produces an anxious attention to a thouſand little circumſtances that may tend to relieve the patient; an attention which money can never purchaſe: hence the inexpreſſible comfort of having a friend for a phyſician. Sympathy naturally engages the affection and confidence of a patient, which in many caſes is of the utmoſt conſequence to his recovery. If the phyſician poſſeſſes gentleneſs of manners, and a compaſſionate heart, and what Shake-

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ſpeare ſo emphatically calls " the milk of human kindneſs," the patient feels his approach like that of a guardian angel miniſtering to his relief; while every viſit of a phyſician who is unfeeling, and rough in his manners, makes his heart ſink within him, as at the preſence of one, who comes to pronounce his doom. Men of the moſt compaſſionate tempers, by being daily converſant with ſcenes of diſtreſs, acquire in proceſs of time that compoſure and firmneſs of mind ſo neceſſary in the practice of phyſic. They can feel whatever is amiable in pity, without ſuffering it to enervate or unman them. Such phyſicians as are callous to ſentiments of humanity, treat this ſympathy with ridicule, and repreſent it either as hypocriſy, or as the indication of a feeble mind. That ſympathy is often affected, I am afraid is true; but this affectation

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may be eaſily ſeen through. Real ſympathy is never oſtentatious; on the contrary, it rather ſtrives to conceal itſelf. But, what moſt effectually detects this hypocriſy, is a phyſician's different manner of behaving to people in high and people in low life; to thoſe who reward him handſomely, and thoſe who have not the means to do it. A generous and elevated mind is even more ſhy in expreſſing ſympathy with thoſe of high rank, than with thoſe in humbler life; being jealous of the unworthy conſtruction ſo uſually annexed to it.—The inſinuation that a compaſſionate and feeling heart is commonly accompanied with a weak underſtanding and a feeble mind is malignant and falſe. Experience demonſtrates, that a gentle and humane temper, far from being inconſiſtent with vigour of mind, is its uſual attendant; and that rough

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and bluſtering manners generally accompany a weak underſtanding and a mean ſoul, and are indeed frequently affected by men void of magnanimity and perſonal courage, in order to conceal their natural defects.

There is a ſpecies of good-humour different from the ſympathy I have been ſpeaking of, which is likewiſe amiable in a phyſician. It conſiſts in a certain gentleneſs and flexibility, which makes him ſuffer with patience, and even apparent chearfulneſs, the many contradictions and diſappointments he is ſubjected to in his practice. If he is rigid and too minute in his directions about regimen, he may be aſſured they will not be ſtrictly followed; and if he is ſevere in his manners, the deviations from his rules will as certainly be concealed from him. The

conſequence is, that he is kept in ignorance of the true ſtate of his patient; he aſcribes to the conſequences of the diſeaſe, what is merely owing to irregularities in diet, and attributes effects to medicines which were pernaps never taken. The errors which in this way he may be led into, are ſufficiently obvious, and might eaſily be prevented by a prudent relaxation of rules that could not well be obeyed. The government of a phyſician over his patient ſhould undoubtedly be abſolute but an abſolute government very few patients will ſubmit to. A prudent phyſician ſhould therefore preſcribe ſuch laws, as, though not the beſt, are yet the beſt that will be obſerved; of different evils he ſhould chooſe the leaſt, and, at no rate, loſe the confidence of his patient, ſo as to be deceived by him as to his true ſituation. This indulgence,

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however, which I am pleading for, muſt be managed with judgment and diſcretion; as it is very neceſſary that a phyſician ſhould ſupport a proper dignity and authority with his patients, for their ſakes as well as his own.

There is a numerous claſs of patients who put a phyſician's good-nature and patience to a ſevere trial; thoſe I mean who ſuffer under nervous ailments. Although the fears of theſe patients are generally groundleſs, yet their ſufferings are real; and the diſeaſe is as much ſeated in the conſtitution as a rheumatiſm or a dropſy. To treat their complaints with ridicule or neglect, from ſuppoſing them the effect of a crazy imagination, is equally cruel and abſurd. They generally ariſe from or are attended with bodily diſorders, obvious enough; but ſuppoſing them

them otherwiſe, ſtill it is the phyſician's duty to do every thing in his power for the relief of the diſtreſſed. Diſorders of the imagination may be as properly the object of a phyſician's attention as thoſe of the body; and ſurely they are, frequently, of all diſtreſſes the greateſt, and demand the moſt tender ſympathy; but it requires addreſs and good ſenſe in a phyſician to manage them properly. If he ſeems to treat them ſlightly, or with unſeaſonable mirth, the patient is hurt beyond meaſure; if he is too anxiouſly attentive to every little circumſtance, he feeds the diſeaſe. For the patient's ſake therefore, as well as his own, he muſt endeavour to ſtrike the medium between negligence and ridicule on the one hand, and too much ſolicitude about every trifling ſymptom on the other. He may ſometimes divert the mind, without ſeeming to intend it, from its

its preſent ſufferings, and from its melancholy proſpects of the future, by inſenſibly introducing ſubjects that are amuſing or intereſting; and ſometimes he may ſucceſsfully employ a delicate and good-natured pleaſantry.

We ſometimes ſee a remarkable difference between the behaviour of a phyſician at his firſt ſetting out, and afterwards when he is fully eſtabliſhed in reputation and practice. In the beginning he is affable, polite, humane, and aſſiduouſly attentive to his patients; but afterwards, when he has reaped the fruits of ſuch a behaviour, and finds himſelf independent, he aſſumes a very different tone; he becomes haughty, rapacious, careleſs, and often ſomewhat brutal in his manners. Conſcious of the aſcendency he has acquired, he acts a deſpotic part, and

and takes a moſt ungenerous advantage of the confidence which people have in his abilities.

A phyſician, by the nature of his profeſſion, has many opportunities of knowing the private characters and concerns of the families in which he is employed. Beſides what he may learn from his own obſervation, he is often admitted to the confidence of thoſe, who perhaps think they owe their life to his care. He ſees people in the moſt diſadvantageous circumſtances, very different from thoſe in which the world veiws them ;—oppreſſed with pain, ſickneſs, and low ſpirits. In theſe humiliating ſituations, inſtead of wonted chearfulneſs, evenneſs of temper, and vigour of mind, he meets with peeviſhneſs, impatience, and timidity. Hence it appears how much the characters of individuals,

individuals, and the credit of families, may ſometimes depend on the diſcretion, ſecrecy, and honour of a phyſician. Secrecy is particularly requiſite where women are concerned. Independently of the peculiar tenderneſs with which a woman's character ſhould be treated, there are certain circumſtances of health, which, though in no reſpect connected with her reputation, every woman, from the natural delicacy of her ſex, is anxious to conceal; and, in ſome caſes, the concealment of theſe circumſtances may be of conſequence to her health, to her intereſt, and to her happineſs.

Temperance and ſobriety are virtues peculiarly required in a phyſician. In the courſe of an extenſive practice, difficult caſes frequently occur, which demand the moſt vigorous exertion of memory

mory and judgment. I have heard it ſaid of ſome eminent phyſicians, that they preſcribed as juſtly when drunk as when ſober. If there was any truth in this report, it contained a ſevere reflection againſt their abilities in their profeſſion. It ſhewed that they practiſed by rote, or preſcribed for ſome of the more obvious ſymptoms, without attending to thoſe nice peculiar circumſtances, a knowledge of which conſtitutes the great difference between a phyſician who has genius and one who has none. Drunkenneſs implies a defect in the memory and judgment; it implies confuſion of ideas, perplexity and unſteadineſs; and muſt therefore unfit a man for every buſineſs that requires the lively and vigorous uſe of his underſtanding.

I may reckon among the moral duties incumbent

incumbent on a phyſician, that candor, which makes him open to conviction, and ready to acknowledge and rectify his miſtakes. An obſtinate adherence to an unſucceſsful method of treating a diſeaſe, muſt be owing to a high degree of ſelf-conceit, and a belief of the infallibility of a ſyſtem. This error is the more difficult to cure, as it generally proceeds from ignorance. True knowledge and clear diſcernment may lead one into the extreme of diffidence and humility, but are inconſiſtent with ſelf-conceit. It ſometimes happens too, that this obſtinacy proceeds from a defect in the heart. Such phyſicians ſee that they are wrong, but are too proud to acknowledge their error, eſpecially if it is pointed out to them by one of the profeſſion. To this ſpecies of pride, a pride incompatible with true dignity and elevation of mind, have the lives of thouſands been ſacrificed.

LECTURE II.

Decorums and attentions peculiar to a phyſician.—How the obligations to theſe ariſe —Duty of a phyſician with regard to adopting new remedies.—Duty in acquainting a patient and his relations of his ſituation.—Conduct of a phyſician when he deſpairs of the patient's life.—Conduct in regard to the profits of his profeſſion.—Conſultations.—Patients intereſt not to ſuffer by the quarrels of phyſicians.—Behaviour of young phyſicians to their ſeniors.—Diſtinction between phyſic, ſurgery, and pharmacy.—Dreſs.—Manners.—Affectation of delicacy.—Servility.—Remarks on ſecret medicines.—Charge of infidelity againſt phyſicians conſidered.

I Proceed now to make ſome obſervations on the decorums and attentions peculiar

peculiar to a phyſician, and ſuch as tend moſt effectually to ſupport the dignity of the profeſſion.

Decorum, decency, and propriety are words very indeterminate in their application; for this reaſon, that the ideas annexed to them are partly founded in nature and common ſenſe, partly in caprice, faſhion, and the cuſtoms of particular nations. In the firſt caſe, the obligation to them is immutable, the ſame in all ages and nations; in the latter it is fluctuating and leſs binding. When it is neceſſary, I ſhall endeavour to mark this diſtinction.

I have already taken notice of the principal duties a phyſician owes to his patients, of the propriety of his attending to their tempers and conſtitutions, and

and allowing them every indulgence conſiſtent with their ſafety. Sometimes a patient himſelf, ſometimes one of his friends, will propoſe to the phyſician a remedy, which, they believe, may do him ſervice. Their propoſal may be a good one; it may even ſuggeſt to the ableſt phyſician, what, perhaps, till then, might not have occurred to him. It is undoubtedly, therefore, his duty to adopt it. Yet there are ſome of the faculty who, from a pretended regard to the dignity of the profeſſion, but in reality from mean and ſelfiſh views, refuſe to apply any remedy propoſed in this manner, without regard to its merit. But, this behaviour can never be vindicated. Every man has a right to ſpeak where his life or his health is concerned, and every man may ſuggeſt what he thinks tends to ſave the life of his friend. It becomes them to interpoſe

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with politeneſs, and a deference to the judgment of the phyſician; it becomes him to hear what they have to ſay with attention, and to examine it with candor. If he really approves, he ſhould frankly own it, and act accordingly; if he diſapproves, he ſhould declare his diſapprobation in ſuch a manner, as ſhews it proceeds from conviction, and not from pique or obſtinacy. If a patient is determined to try an improper or dangerous medicine, a phyſician ſhould refuſe his ſanction; but he has no right to complain of his advice not being followed.

A phyſician is often at a loſs in ſpeaking to his patients of their real ſituation when it is dangerous. A deviation from truth is ſometimes in this caſe both juſtifiable and neceſſary. It often happens that a perſon is extremely ill; but yet may

may recover, if he is not informed of his danger. It ſometimes happens, on the other hand, that a man is ſeized with a dangerous illneſs, who has made no ſettlement of his affairs; and yet perhaps the future happineſs of his family may depend on his making ſuch a ſettlement. In this and other ſimilar caſes, it may be proper for a phyſician, in the moſt prudent and gentle manner, to give a hint to the patient of his real danger, and even ſolicit him to ſet about this neceſſary duty. But, in every caſe, it behoves a phyſician never to conceal the real ſituation of the patient from his relations. Indeed, juſtice demands this; as it gives them an opportunity of calling for further aſſiſtance, if they ſhould think it neceſſary. To a man of a compaſſionate and feeling heart, this is one of the moſt diſagreeable duties in the profeſſion: but

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it is indiſpenſible. The manner of doing it, requires equal prudence and humanity. What ſhould reconcile him the more eaſily to this painful office, is the reflection that, if the patient ſhould recover, it will prove a joyful diſappointment to his friends; and, if he dies, it makes the ſhock more gentle. Let me here exhort you againſt the cuſtom of ſome phyſicians, who leave their patients when their life is deſpaired of, and when it is no longer decent to put them to farther expence. It is as much the buſineſs of a phyſician to alleviate pain, and to ſmooth the avenues of death, when unavoidable, as to cure diſeaſes. Even in caſes where his ſkill as a phyſician can be of no further avail, his preſence and aſſiſtance as a friend may be agreeable and uſeful, both to the patient and to his neareſt relations. Neither is it proper that he ſhould withdraw when a

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clergyman is called to aſſiſt the patient in his ſpiritual concerns. On the contrary, it is decent and fit that they ſhould mutually underſtand one another and act together. The converſation of a clergyman of cheerful piety and good ſenſe, in whom a ſick man confides, may ſometimes be of much more conſequence in compoſing the anguiſh of his mind, and the agitation of his ſpirits, than any medicine; but a gloomy and indiſcreet enthuſiaſt may do great hurt, may terrify the patient, and contribute to ſhorten a life that might otherwiſe be ſaved.

There are often unhappy jealouſies and animoſities among thoſe of the profeſſion, by which their patients may ſuffer. A phyſician, however, who has any ſenſe of juſtice or humanity, will never involve his patient in the conſequences of private quarrels,

quarrels, in which he has no concern. Phyſicians in conſultation, whatever may be their private reſentments, or opinions of one another, ſhould diveſt themſelves of all partialities, and think of nothing but what will moſt effectually contribute to the relief of thoſe under their care. If a phyſician cannot lay his hand to his heart, and ſay that his mind is perfectly open to conviction, from whatever quarter it ſhall come, he ſhould in honour decline the conſultation. Many advantages ariſe from two phyſicians conſulting together, who are men of candour, and have mutual confidence in each other's honour. A remedy may occur to one which did not to another; and a phyſician may want reſolution, or ſufficient confidence in his own opinion, to preſcribe a powerful but precarious remedy, on which, however, the life of his patient may depend; in this

caſe the concurring opinion of his brother may fix his own. But, if there is no mutual confidence; if opinions are regarded, not according to their intrinſic merit, but according to the perſon from whom they proceed; or, if there is reaſon to believe, that ſentiments delivered with openneſs are to be whiſpered abroad, and miſrepreſented to the public, without regard to the obligations of honour and ſecrecy; and if, in conſequence of this, a phyſician is ſingly to be made reſponſible for the effects of his advice; in ſuch caſes, conſultations of phyſicians tend rather to the detriment than to the advantage of the ſick, and the uſual and indeed moſt favourable concluſion of them is ſome very harmleſs but inſignificant preſcription.

The quarrels of phyſicians, when they end in appeals to the public, generally hurt

hurt the contending parties; but, what is of more conſequence, they diſcredit the profeſſion, and expoſe the faculty itſelf to ridicule and contempt.—Nothing, in my opinion, but the following cauſe, can juſtify any phyſician for refuſing to conſult with another, when he is required to do ſo. If he is conſcious he cannot behave with temper, and that his paſſions are ſo ruffled as to impair his judgment, he may and ought to refuſe it. But ſuch circumſtances, as the univerſity where the perſon he is to conſult with had his degree, or indeed whether he had a degree from any univerſity or not, cannot juſtify his refuſal. It is a phyſician's duty to do every thing in his power that is not criminal, to ſave the life of his patient, and to ſearch for remedies from every ſource, and from every hand, however mean and contemptible. This, it may be ſaid, is

ſacrificing

ſacrificing the dignity and intereſts of the faculty. But, I am not here ſpeaking of the private police of a corporation, or the little arts of a craft. I am treating of the duties of a liberal profeſſion, whoſe object is the life and health of the human ſpecies, a profeſſion to be exerciſed by gentlemen of honour and ingenuous manners; the dignity of which can never be ſupported by means that are inconſiſtent with its ultimate object, and that tend only to increaſe the pride and fill the pockets of a few individuals.

It becomes young phyſicians to be particularly attentive to the propriety of their behaviour when conſulting with their ſeniors. Beſides the reſpect due to age, theſe are entitled to a particular deference from their longer and more extenſive experience. The revolutions indeed of medical hypotheſes and ſyſtems are ſo quick,

quick, that an old and a young phyſician ſeldom reaſon in the ſame way on ſubjects of their profeſſion; although the difference be ſometimes rather apparent than real, when they uſe only a different language to expreſs ſentiments eſſentially the ſame. But it generally happens, that the ſpeculations which principally engage the attention of young phyſicians, ſeldom in any degree affect their practice; and therefore, as they are in a great meaſure foreign to the buſineſs, they ſhould never introduce them in medical conſultations. They ſhew equal want of ſenſe and good-manners, when they wantonly take opportunities of expreſſing a contempt for opinions as antiquated and exploded, in which their ſeniors have been educated, and which they hold as firmly eſtabliſhed. A little reflection might teach them, that it is not impoſſible, but, in the courſe of

a few years, their own moſt favourite theories may be diſcovered to be as weak and deluſive as thoſe which have gone before them; and this ſhould lead them to conſider how ſenſibly they may be hurt themſelves, when they find thoſe idols of their youth attacked by the petulant ridicule of the next generation; when, perhaps, they are arrived at a time of life when they have neither abilities nor temper to defend them.

The ſame reſpect that ought to be ſhewn to the opinions of elder phyſicians, ſhould be extended to their favourite authors, and indeed to all ſuch writers in medicine as have contributed to its advancement, and whoſe names in the ſucceſſive ages of phyſic have been revered by the wiſeſt and moſt learned of the profeſſion. It is equally prudent and decent

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for young practitioners, when they differ in opinion from the reſt of mankind, to expreſs their diſſent with modeſty and good-manners. Their abuſe of characters which have been generally eſteemed, has more the appearance of petulance and ſelf-conceit, than of the liberal and ingenuous ſpirit that flows from the love of truth. There is indeed an ardent love of freedom, and an impatience of the controul of authority in all matters of ſentiment and reaſoning, which is both natural and proper in young men. This high ſpirit is very properly ſhewn when they expoſe to ridicule ſuch authors as are remarkably vain and oſtentatious, or when they chaſtiſe the inſolence of ſuch as are aſſuming, ſupercilious, and dictatorial; but, in ſpeaking of ſuch men as Hippocrates, Sydenham, or Boerhaave, who were no leſs eminent for their candour

dour and modeſty, than for their genius and merit in their profeſſion, at the ſame time that their opinions are canvaſſed with freedom, their characters ſhould be treated not only with decency but with reverence.

There have ariſen at different periods, and particularly in France about twenty years ago, great diſputes about the boundary of phyſic and ſurgery, and the proper ſubordination of ſurgery to medicine. A diſpute hurtful to mankind, and which has been often conducted in a manner unworthy of ſcholars and gentlemen. I ſhall embrace this opportunity of giving my ſentiments concerning it.

There was anciently, as Celſus informs us, a diviſion of medicine into three parts:

parts: the firſt regarded the regulation of diet; the ſecond, the preſcription of remedies; the third, manual operations, or ſurgery. The two firſt, though diſtinguiſhed in theory, were always united in practice; the laſt has often been exerciſed ſeparately. Sometimes the ancient phyſicians performed the manual part themſelves; at other times it was done by ſlaves kept for that purpoſe. Among the moderns, the arts of phyſic and ſurgery have often been promiſcuouſly practiſed by the ſame perſons; for example, Hildanus, Severinus, Bartholine, and many others of diſtinguiſhed genius and learning. But, in many parts of Europe both now and formerly, ſurgery has not been reckoned among the liberal profeſſions, but ſurgeons have ignominiouſly been claſſed with the corporation of barbers. In ſuch places, we may reaſonably

ſuppoſe, that this art muſt be often practiſed by people of the loweſt rank, who have never received a liberal education. The ſeparation of phyſic from ſurgery in modern times, has been productive of the worſt conſequences. The phyſicians and ſurgeons, formed into ſeparate ſocieties, had ſeparate intereſts to ſupport, which, in many caſes, claſhed with each other. The ſurgeons claimed not only the excluſive privilege of performing all operations, but likewiſe the management of moſt external diſeaſes, and ſome internal ones, where operations were ſuppoſed to be often neceſſary; by which means the method of cure in many diſeaſes was ſometimes left to the direction of ignorant as well as illiterate men. But it muſt be apparent to every ſenſible and ingenuous obſerver, that the diſeaſes of the human body are ſo intimately connected, that it

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is impoſſible to underſtand ſome of them perfectly and be entirely ignorant of all the reſt; and hardly poſſible to underſtand any of them, without ſome knowledge of Anatomy, and of the Animal œconomy, both in its ſound and morbid ſtate. It muſt at the ſame time be owned, that a practitioner, well grounded in ſuch general knowledge, may have conſiderable advantages; and more readily make improvements, by attaching himſelf to the ſtudy of one or two particular diſeaſes.—Every diſtemper, external as well as internal, falls under the cognizance of the phyſician, and it is a reflection on him to be ignorant of any of them; neither is it poſſible to fix any ſuch preciſe boundaries between external and internal diſeaſes, as to render the diſtinction in any degree uſeful, or applicable in practice. Suppoſe a perſon to break his leg, and a fever and

gangrene

gangrene to enſue; the queſtion occurs, whether the limb ſhould be immediately amputated, or whether we ſhould wait for ſome time till the effects of certain medicines, given with a view to ſtop the progreſs of the mortification, are known. It is evidently the buſineſs of a phyſician, in this caſe, to judge from the ſymptoms, from the habit of body, and from other circumſtances, whether the delay is prudent or not.—As to the performance of the operation itſelf, that is a different queſtion. The genius and education requiſite to make a good phyſician, are not neceſſary to make a good operator.—What is peculiarly neceſſary to make a good operator, is a reſolute, collected mind, a good eye, and a ſteady hand. Theſe talents may be united with thoſe of an able phyſician; but they may alſo be ſeparated from them.—If ſurgery was

confined

confined to a ſet of men who were to be merely operators, it might juſtly be expected, that the art would be more quickly brought to perfection by ſuch men, than by thoſe who follow a more complicated buſineſs, and practiſe all the branches of medicine. The ſame advantage would accrue to pharmacy, if apothecaries were to be confined to the mere buſineſs of preparing medicines. But, in reality, this is not the caſe. In ſome parts of Europe, ſurgeons act as phyſicians in ordinary; in others, the apothecaries do this duty, without a medical education. The conſequence is, that in many places phyſic is practiſed by low, illiterate men, who are a diſgrace to the profeſſion. In regard to pharmacy, it were much to be wiſhed, that thoſe who make it their buſineſs ſhould have no connection with the practice of phyſic, or that phyſicians

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ſhould diſpenſe their own medicines, and either not charge the expence of them to their patients at or all charge it at the prime coſt. It is only in one or other of theſe ways, that we can ever hope to ſee that ſimplicity of preſcription take place in the practice of medicine, which all who underſtand its real intereſts ſo ardently wiſh for; and it is only from ſuch an arrangement that we can expect to ſee phyſicians placed in that honourable independence, which ſubjects them to no attentions but ſuch as tend to the advancement of their art But it is a known fact, that, in many parts of Europe, phyſicians who have the beſt parts, and beſt education, muſt frequently depend for heir ſucceſs upon apothecaries, who have no pretenſions either to the one or the other; and that the obligation to apothecaries is too often repaid by what every

every one concerned for the honour of medicine muſt reflect on with indignation.

From what I have ſaid, it is evident, that I have no intention to throw reflections upon any particular branch of the profeſſion. Every department of it is reſpectable, when exerciſed with capacity and integrity. I only contend for an evident truth, either that the different branches ſhould be ſeparately profeſſed, or, if one perſon will profeſs all, that he ſhould be regularly educated to, and thoroughly maſter of all. I am not here adjuſting points of precedence, or inſinuating the deference due to degrees in medicine. As a doctor's degree can never confer ſenſe, the title alone can never command regard; neither ſhould the want of it deprive any man of the eſteem and deference

deference due to real merit. If a ſurgeon or apothecary has had the education, and acquired the knowledge of a phyſician, he is a phyſician to all intents and purpoſes, whether he has a degree or not, and ought to be reſpected and treated accordingly. In Great Britain, ſurgery is a liberal profeſſion. In many part of it, ſurgeons or apothecaries are the phyſicians in ordinary to moſt families, for which truſt they are often well qualified by their education and knowledge; and a phyſician is only called where a caſe is difficult, or attended with danger. There are certain limits, however, between the two profeſſions, which ought to be attended to; as they are eſtabliſhed by the cuſtoms of the country, and by the rules of their ſeveral ſocieties. But a phyſician, of a candid and liberal ſpirit, will never take advantage of what a nominal

minal diſtinction, and certain privileges, give him over men, who, in point of real merit, are his equals; and will feel no ſuperiority, but what ariſes from ſuperior learning, ſuperior abilities, and more liberal manners. He will deſpiſe thoſe diſtinctions founded in vanity, ſelf-intereſt, or caprice; and will be careful, that the intereſts of ſcience and of mankind ſhall never be hurt, on his part, by a punctilious adherence to formalities.

Among the peculiar decorums of a phyſician's character, much ſtreſs has been laid on a certain formality in dreſs, and a particular gravity in his behaviour. I have before obſerved, that decorum and propriety have their foundation ſometimes in nature and common ſenſe, ſometimes only in caprice and faſhion. This obſervation may be exemplified by the

preſent ſubject. In many ſtations a particular formality and pomp of dreſs is highly proper, independently of any faſhion whatever; for example, in judges and in magiſtrates. Whatever circumſtances in their mode of dreſs, or external appearance, make them the objects of awe and reverence, are neceſſary and decent; becauſe they impreſs the minds of the people with a due veneration, and fear of the laws. Neither is there any danger of abuſe from this reverence procured to the office of a magiſtrate. The caſe is very different in the profeſſion of medicine. There is no natural propriety in a phyſician's wearing one dreſs in preference to another; it not being neceſſary that any particular reſpect or authority ſhould be annexed to his office, independent of what his perſonal merit commands. Experience, indeed, has ſhewn, that all our external

ternal formalities have been often uſed as ſnares to impoſe on the weakneſs and credulity of mankind; that in general they have been moſt ſcrupulouſly adhered to by the moſt ignorant and forward of the profeſſion; that they frequently ſupplant real worth and genius; and that, far from ſupporting the dignity of the profeſſion, they often expoſe it to ridicule. If then there is no natural and real propriety in a phyſician's wearing a diſtinguiſhing dreſs, he can be under no obligation to uſe it, but what ariſes from the particular faſhion of the country where he reſides. This is an obligation, however, which common ſenſe and prudence make it neceſſary he ſhould regard. If the cuſtoms or prejudices of any country affix the idea of ſenſe, knowledge, or dignity to any mode of dreſs, it is a phyſician's buſineſs, from motives of prudence, to

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equip himſelf accordingly. But, in a country where a phyſician's capacity is not meaſured by ſuch ſtandards, and where he may dreſs like other people without ſinking in their eſtimation, I think he is at full liberty to avail himſelf of this indulgence, if he ſo chuſes, without being conſidered as deviating from the propriety and decency of his profeſſion.

In ſome caſes, there is a great impropriety in a phyſician's having any diſtinguiſhing formality in his dreſs or manners. I do not hint merely at the diſagreeable impreſſion, not to ſay terror, with which this ſometimes affects the minds of children. Even among people who poſſeſs the greateſt vigour and firmneſs of mind when in health, there is often a feebleneſs and depreſſion of ſpirits attendant on ſickneſs,

neſs, that renders the ſight of any ſtranger whatever very painful. In ſuch a ſtate of mind, the viſit of a phyſician, even when wiſhed for, is often particularly dreaded, as it naturally awakens the apprehenſions of danger; apprehenſions, which a formal dreſs, and a ſolemn behaviour, are ill calculated to diſpel. Surely, if there is at any time a propriety in an eaſy, cheerful, ſoothing behaviour, it muſt be on ſuch an occaſion, where it is ſo neceſſary to forget the phyſician in the friend.

I ſee, indeed, no reaſon why the general character of a phyſician's manners ſhould be any way ſingular. They may be affable without meanneſs, grave without formality, and cheerful without levity. They will naturally vary according to the circumſtances

circumſtances in which he is placed. How different the appearance of a phyſician rejoicing with his patient at his reſtoration to health and ſpirits, or communicating to his friends the accounts of his approaching diſſolution! If, however, the manners of a country require that he ſhould obſerve the ſame unvaried face and ſolemnity, unmoved by every object around him, and equally unſuſceptible of joy or ſorrow, he muſt ſubmit; but if, without ſuch neceſſity, he voluntarily lays himſelf under theſe or any other reſtraints, and aſſumes a fictitious character, there is reaſon to ſuſpect the qualities either of his heart or of his underſtanding.

A phyſician ſhould carefully guard againſt any little peculiarities ſtealing into his manners, which can in any degree render him an object of ridicule. Young

phyſicians,

phyſicians, in particular, will much deceive themſelves, if they imagine they can indulge in ſuch particularities with the ſame impunity that their ſeniors ſometimes do. It is indeed an obſervation, which perhaps does no great honour to mankind, that, when once a phyſician's reputation for knowledge in his profeſſion comes to be thoroughly eſtabliſhed, almoſt every peculiarity of manners, even ſome that would be in other men offenſive, deepen the impreſſion made on the imagination by his ſuppoſed merit, and increaſe his popularity and fame.

There is great impropriety in a phyſician's indulging himſelf in a certain delicacy, which makes him liable to be diſguſted with ſome diſagreable circumſtances he muſt unavoidably meet with in his practice. Genuine delicacy is a vir-

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tue of the mind, and though it ſhews itſelf by an attachment to cleanlineſs, neatneſs, and even elegance where it can be afforded, yet it always gives place and forgets itſelf, where duty or the intereſts of humanity require it. It is a miſtake in a phyſician to think any attentions, or duties, below his dignity, which can contribute to the relief of his patient. When neceſſity calls, he acts unworthily, if he does not become, to the beſt of his abilities, ſurgeon, apothecary, and even nurſe. If, however, without ſuch neceſſity, he encroaches on another's province, then, indeed, he degrades himſelf; not becauſe he acts below the dignity of a phyſician, but becauſe he behaves in a manner unbecoming the character of a gentleman.

The attendance given to a patient ſhould be

be in proportion to the urgency and danger of his complaints. As the phyſician is the beſt judge of this, he ſhould regulate his viſits accordingly. But ſome delicacy is often required, to prevent ſuch frequent viſits as may be neceſſary, from bringing an additional expence upon the patient. A patient is entitled to the whole attention of his phyſician, while he remains with him. Whatever other buſineſs or avocations he may have, he ſhould dedicate that time entirely to him. That continual hurry which ſome of our profeſſion ſeem to be in, is ſometimes mere affectation; but it often proceeds from other cauſes. Some keep themſelves conſtantly embarraſſed by a want of oeconomy of their time, and of a proper arrangement of their buſineſs; ſome, from a livelineſs of imagination, and an unremitting activity of mind, involve themſelves in

ſuch a multiplicity of purſuits as cannot be overtaken. But from whatever ſource it ariſes, it ought to be timely corrected, and not ſuffered to grow into a habit. It prevents a phyſician from doing his duty to the ſick, and at the ſame time weakens their confidence in him.

Having freely expreſſed my ſentiments concerning what I think wrong in the conduct of ſome of our faculty, I ſhall now, with the ſame freedom, animadvert on a particular circumſtance not unfrequent in the behaviour of other learned men, as well as phyſicians, which ſeems to me eſſentially injurious to the dignity of our profeſſion; I mean that ſervility of manners towards people of rank and fortune, which ſo often diſgraces men in other reſpects eminent for learning and ingenuity. The external magnificence

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and ſplendor attendant on high rank is apt ſometimes to dazzle their underſtanding, and make them pay too much veneration to thoſe outward diſtinctions of title and fortune, which their philoſophy ought to make them deſpiſe.

Great diſputes have ariſen in our profeſſion about the propriety of a phyſician's keeping ſecrets or noſtrums. It has been ſaid, with ſome plauſibility, in vindication of this practice, that the bulk of mankind ſeldom attend, or pay much regard, to what is made level to their capacities; and that they are apt to undervalue what coſts them nothing. Experience ſhews, that men are naturally attached to whatever has an air of myſtery and concealment. A vender of a quack medicine does not tell more lies about its extraordinary virtues, than many people do who

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have no intereſt in the matter ; even men of ſenſe and probity. A paſſion for what is new and marvellous operates more or leſs on the imagination ; and, in proportion as that is heated, the underſtanding is perplexed. When a noſtrum is once divulged, its wondeful qualities immediately vaniſh, and in a few months it is generally forgotten. If it is really valuable, the faculty perhaps adopt it, but it never recovers its former reputation.—It is likewiſe ſaid, that this is the only way in which any good medicine can be introduced into practice ; as the bulk of mankind will more readily follow the directions of a man who profeſſes to cure them by myſterious means, than thoſe of a regular phyſician, who preſcribes plain and common remedies. It is further alledged, that ſome of the beſt medicines were originally introduced as ſecrets, though oppoſed

poſed by the regular phyſicians. But allowing this to be true, yet I am perſuaded that noſtrums, on the whole, do more harm than good; that they hinder the advancement of our art, by making people neglect what is known and approved, in purſuit of what is unknown and probably never to be divulged; and that, from their being generally diſpenſed by low and illiterate men, who preſcribe them indiſcriminately, they are become a public nuiſance in theſe kingdoms.—In ſome places on the continent, however, phyſicians of honour and reputation keep noſtrums. In ſuch hands, the ſame abuſes will not be committed, as we experience here; but ſtill the practice has an intereſted and illiberal appearance.

Curioſity in a patient or his friends to know the nature of the medicines preſcribed

ſcribed for him is natural, and therefore not blameable; yet this is a curioſity which it is often very improper to gratify. There is a natural propenſity in mankind to admire what is covered with the veil of obſcurity, and to undervalue whatever is fully and clearly explained to them. A firm belief in the effects of a medicine depends more on the imagination, than on a rational conviction impreſſed on the underſtanding; and the imagination is never warmed by any object which is diſtinctly perceived, nor by any truth obvious to common ſenſe. Few people can be perſuaded that a poultice of bread and milk is in many caſes as efficacious as one compounded of half a dozen ingredients, to whoſe names they are ſtrangers; or that a glaſs of wine is, in moſt caſes where a cordial is wanted, one of the beſt that can be adminiſtered. This

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want of faith in the effects of ſimple known remedies, muſt of neceſſity occaſion a diſregard to the preſcription, as well as create a low opinion of the phyſician. Beſides, where a patient is made acquainted with the nature of every medicine that is ordered for him, the phyſician is interrupted in his proceedings by many frivolous difficulties, not to be removed to the ſatisfaction of one ignorant of medicine. The conſequence of this may be to embarraſs the phyſician, and render him irreſolute in his practice; particularly in the adminiſtration of the more powerful remedies. It ſhould be further conſidered, that when a patient dies, or grows worſe under the care of a phyſician, his friends often torment themſelves, by tracing back all that has been done, if they have been made acquainted with it, and may thus be led, very unjuſtly, to charge the phyſician with what was the

inevitable

inevitable conſequence of the diſeaſe. There are indeed caſes where it may be proper to acquaint a patient with the nature of the remedies, which it is propoſed to employ, as there are in ſome patients peculiarities of conſtitution that require great attention, with regard both to the quality and to the quantity of certain medicines, of which peculiarities a phyſician ought to be informed before he preſcribe ſuch medicines.

I ſhall conclude this ſubject with ſome obſervations on a charge of a heinous nature, which has been often urged againſt our profeſſion; I mean that of infidelity, and contempt of religion. I think the charge ill-founded; and will venture to ſay, that the moſt eminent of our faculty have been diſtinguiſhed for real piety. I ſhall only mention, as examples, Harvey, Sydenham, Arbuthnot, Boerhaave, Stahl, and

and Hoffman.—It is eaſy, however, to ſee whence this calumny has ariſen. Men whoſe minds have been enlarged by knowledge, who have been accuſtomed to think, and to reaſon upon all ſubjects with a generous freedom, are not apt to become bigots to any particular ſect or ſyſtem. They can be ſteady to their own principles without thinking ill of thoſe who differ from them; but they are impatient of the authority and controul of men, who would lord it over their conſciences, and dictate to them what they are to believe. This freedom of ſpirit, this moderation and charity for thoſe of different ſentiments, have frequently been aſcribed, by narrow-minded people, to ſecret infidelity, ſcepticiſm, or, at leaſt, to lukewarmneſs in religion; while ſome who were ſincere Chriſtians, exaſperated by ſuch reproaches, have ſometimes ex-

preſſed themſelves unguardedly, and there-by afforded their enemies a handle to calumniate them. This, I imagine, has been the real ſource of that charge of infidelity ſo often and ſo unjuſtly brought againſt phyſicians. In a neighbouring nation, where few people have been uſed to think or to reaſon with freedom on religion, and where, till of late, no man durſt expreſs himſelf freely on the ſubject, ſome ingenious and lively writers have, within theſe few years, appeared, who, impatient to diſplay their newly-acquired liberty, have attempted to ſhake the foundations of all religion, natural as well as revealed. Lately emancipated from the loweſt ſuperſtition, by a tranſition not unnatural, they have plunged at once into Atheiſm. It is perhaps for the better, that theſe gentlemen have carried matters ſo far; becauſe it is to be hoped the evil will ſoon cure itſelf.

itſelf. Mankind may have their religious opinions diſfigured by various ſuperſtitions; but ſtill religion is natural to the human mind, and every attempt to eradicate it will be found as impotent as it is wicked. But, ſuppoſing that Atheiſm came univerſally to prevail, together with the diſbelief of the immortality of the ſoul, the duration of ſuch ſentiments would neceſſarily be very ſhort; becauſe they would at once unhinge all the bonds of ſociety, and produce a continued ſcene of anarchy and wickedneſs. Diveſted of that uncouth, metaphyſical dreſs, under which they long lay concealed, the gloomy ſpeculation of a few recluſe men, they are now produced to the world, adorned with what paſſes among many for wit and humour, and adapted to every capacity. So far as they contain any argument, their weakneſs has been often demonſtrated.

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One method taken by the preſent patrons of infidelity to propagate their opinions is ſomewhat dangerous. With much aſſurance, they inſinuate, that all who avow their belief in natural or revealed religion, are either hypocrites or fools. This is attacking youth on their weak ſide. A young man of a liberal ſpirit, naturally diſdains the idea of hypocriſy; and, from an ill-judged pride, is afraid of whatever may ſubject him to ſo mean an imputation. Vanity, again, is their moſt ruling paſſion, as they commonly dread contempt above every thing, and reſent reflections on the weakneſs and narrowneſs of their underſtanding, more than any charge againſt their principles or morals. But I will venture to ſay, that men of the moſt enlarged, clear, and ſolid underſtandings, who have acted with the greateſt ſpirit, dignity, and propriety,

priety, and who have been regarded as the moſt uſeful and amiable members of ſociety, have never openly inſulted, or inſidiouſly attempted to ridicule the principles of religion; but, on the contrary, have been its beſt and warmeſt friends.—The ſtudy of medicine, of all others, ſhould be the leaſt ſuſpected of leading to impiety. An intimate acquaintance with the works of Nature raiſes the mind to the moſt ſublime conceptions of the Supreme Being, and at the ſame time dilates the heart with the moſt pleaſing views of Providence. The difficulties that neceſſarily attend all deep inquiries into a ſubject ſo diſproportionate to the human faculties, ſhould not be ſuſpected to ſurpriſe a phyſician, who, in his practiſe, is often involved in perplexity, even in ſubjects expoſed to the examination of his ſenſes.

There are, beſides, ſome peculiar circumſtances in the profeſſion of a phyſician, which ſhould naturally diſpoſe him to look beyond the preſent ſcene of things, and engage his heart on the ſide of religion. He has many opportunities of ſeeing people, once the gay and the happy, ſunk in deep diſtreſs; ſometimes devoted to a painful and lingering death; and ſometimes ſtruggling with the tortures of a diſtracted mind. Such afflictive ſcenes, one ſhould imagine, might ſoften any heart, not dead to every feeling of humanity, and make it reverence that religion which alone can ſupport the ſoul in the moſt complicated diſtreſſes; that religion, which teaches to enjoy life with cheerfulneſs, and to reſign it with dignity. A phyſician, who has the misfortune to diſbelieve in a future ſtate, will, if he has common good-nature, conceal his ſenti-

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ments from thoſe under his charge, with as much care as he would preſerve them from the infection of a mortal diſeaſe. With a mind unfeeling, or occupied in various purſuits, he may not be aware of his own unhappy ſituation; yet it is barbarous to deprive expiring nature of its laſt ſupport, and to blaſt the only ſurviving comfort of thoſe who have taken a laſt farewel of every ſublunary pleaſure. But, if motives of humanity, and a regard to the peace and happineſs of ſociety, cannot reſtrain a phyſician from expreſſing ſentiments deſtructive of religion or morals, it is vain to urge the decency of the profeſſion. The moſt favourable conſtruction we can put on ſuch conduct, is to ſuppoſe that it proceeds from an ungovernable levity, or a criminal vanity, that forgets all the ties of morals, decency, and good manners.

I ſhall make no apology for going a little out of my way in treating of ſo ſerious a ſubject. In an inquiry into the office and duties of a phyſician, I deemed it neceſſary to attempt to wipe off a reflection ſo derogatory to our profeſſion; and, at the ſame time, to caution you againſt that petulance aud vanity in converſation, which may occaſion imputations of bad principles, equally dangerous to ſociety, and to your own intereſt and honour.

LECTURE III.

Connection of the ſeveral branches of phyſic with its practice.—Impropriety of waſting too much time in the ſtudy of theſe branches.—Neceſſity of a knowledge of anatomy, and phyſiology—of natural philoſophy, chemiſtry.—Laws of union between the ſoul and body, and of the nervous ſyſtem, not explicable upon mechanical or chemical principles.—Comparative anatomy.—Pathology.—Theory of phyſic, what it properly ſignifies.—Materia medica.—Botany.—Natural hiſtory.—Neceſſity of a phyſician's being well founded in theſe preliminary ſciences.—Ornamental qualifications.—Knowledge of the hiſtory of phyſic.—of mathematics—of the Latin, Greek, and French languages—of our native language—Obſer-

vations on the ſtyle and compoſition proper for medical writings.

I Proceed now to explain the connections of the ſeveral branches of phyſic with the practical part of it, and to inquire how far a previous knowledge of theſe is neceſſary, in order to practiſe with reputation and ſucceſs.

Here I muſt previouſly obſerve, that all the works of Nature are ſo intimately connected, that no one part of them can be well undeſtood by conſidering and ſtudying it ſeparately. In order therefore to be qualified for the practice of phyſic, a variety of branches of knowledge, ſeemingly little connected, are nevertheleſs neceſſary. As this is the caſe, it is proper that a ſtudent ſhould be on his guard not to waſte his time and labour in purſuits which

which have either no tendency, or a remote one, to throw light on his profeſſion. Life is too ſhort for every ſtudy that may be deemed ornamental to a phyſician; it will not even allow time for every ſtudy that has ſome connection with phyſic. Every one of the ſciences I am about to name is of great extent; but it will be neceſſary for a phyſician to confine his application to ſuch parts of them as are really ſubſervient to practice. If a ſtudent's genius inclines him more particularly to any of theſe preliminary ſciences, he may, if he pleaſes, indulge himſelf in it, taking care not to impoſe on himſelf, and conſider this as ſtudying phyſic.

The neceſſity of a previous knowledge of anatomy to the practice of phyſic, is apparent, and needs no illuſtration.

The neceſſity of the knowledge of phyſiology, which comprehends the doctrine of the animal fluids, and of all the functions in their ſound ſtate, is equally evident.—When you inquire into this ſubject, you find the human body a machine, conſtructed upon the moſt exact mechanical principles. In order, then, to underſtand its movements, you muſt be well acquainted with the principles of mechanics. Conſidering the human body in another view, you find fluids of different kinds circulating through tubes of various diameters; the laws of their motions, therefore, cannot be underſtood, without a knowledge of hydraulics. The eye appears to be an admirable optical machine; and, of courſe, the phenomena of viſion cannot be explained, without a knowledge of the principles of optics. As the human body is ſurrounded with

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an elaſtic fluid, the air, ſubject to various changes, in reſpect of gravity, heat, moiſture, and other qualities which have great influence on the conſtitution, it is proper to be acquainted with the nature and properties of this fluid; the knowledge of which conſtitutes the ſcience of pneumatics. It were eaſy to bring many more examples, to ſhew how neceſſary a knowledge of the various branches of natural philoſophy is to the right underſtanding of the animal oeconomy.

But the different phenomena of the animal oeconomy are not all to be explained from common mechanics; various changes are induced upon the fluids from chemical principles. It is, therefore, neceſſary to be acquainted with the chemical hiſtory of our fluids, and with the chemical analyſis of whatever is taken into the human body as food or medicine, and, in general,

general, of all the ſubſtances which can, in any degree, influence it. This ſhews the neceſſity of a knowledge of chemiſtry, previous to the ſtudy of the practice of phyſic.

Yet the moſt accurate knowledge of anatomy, and of the principles of mechanics and chemiſtry, are inſufficient to explain all the phenomena in the body. The animal machine differs in many reſpects from an inanimate one. The former has a power of beginning motion within itſelf. An internal principle directs and influences moſt of the operations of the body, by a ſet of laws totally diſtinct from, and independent of, any principles of mechanics or chemiſty hitherto known. An animal body likewiſe differs from a common machine, in having a power, to a certain degree, of curing its own diſ-

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orders, and rectifying many deviations from its natural ſtate; as in the caſe of fractured bones, incarnation of wounds, enlargement of one kidney when the other is deſtroyed or rendered uſeleſs, and in the ſucceſsful efforts of Nature in the cure of many diſeaſes. Many feeble attempts have been made to explain the phenomena of the animal body upon mechanical and chemical principles alone, but without ſucceſs.

The laws of the nervous ſyſtem, though of the moſt difficult inveſtigation, are equally ſteady and regular with any other laws of Nature; ſo are the laws relating to the mutual influence of the mind and body upon each other; a very important inquiry to a phyſician: This leads to an extenſive and intereſting ſubject, the hiſtory of the faculties of the human mind, which,

which, if we are not on our guard, is apt to lead us inſenſibly into a labyrinth of metaphyſics. A ſtudent of genius ſhould be watchful, leſt his attention be too deeply engaged by this ſpecious kind of philoſophy, which gives ſo much room for imagination, and ſo little for experiment; apparently ingenious, but really trifling and uſeleſs; a philoſophy, in ſhort, which, by keeping the mind inceſſantly employed about ſubtleties of its own creation, ſoon renders it incapable of a patient and ſevere inveſtigation of Nature.

In order to illuſtrate the human phyſiology, a knowledge of the comparative anatomy of ſome animals that moſt nearly reſemble man, is requiſite. Several important diſcoveries in the animal oeconomy have been illuſtrated by experiments firſt made on brutes, many of which could not

not have been made on the human ſubject, e. g. the experiments relating to the circulation of the blood, reſpiration, muſcular motion, ſenſibility and irritability of different parts of the body, and the effects of various medicines. The inſtincts of brutes have ſometimes given the firſt hint of valuable remedies, and might throw light on the ſubject of regimen, and the cure of diſeaſes, if they were properly attended to. At the ſame time it muſt be acknowledged, that the comparative anatomy has often led into great miſtakes when too haſtily applied to the human body.

The writers on phyſiology have uſually conſidered the body as a permanent ſubject, exhibiting uniformly the ſame appearances; but, in applying the knowledge of the animal oeconomy to practice,

it is neceſſary to conſider the human conſtitution as perpetually fluctuating, and not, perhaps, exactly the ſame in any two perſons. It were endleſs to trace the diverſity of conſtitutions among mankind, neither would it be an inquiry of much utility; but there are ſome varieties which it is neceſſary to attend to. Theſe depend chiefly on the difference of age, ſex, climate, and manner of living, and ſome original temperaments, or habits of body, not produced by any of theſe circumſtances. It belongs to phyſiology to inquire into the laws of the union between the mind and the body; into the effects of culture and education upon the conſtitution; into the power of habit, the effects of enthuſiaſm, and force of imagination. This ſhort detail ſhews how extenſive a ſtudy phyſiology is, and how intimately connected with the ſtudy of the practice of medicine.

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As phyſiology conſiders the whole appearances of the animal oeconomy in its ſound ſtate, pathology conſiders thoſe in a morbid ſtate. It delivers the general doctrine of the cauſes, effects, and ſymptoms of diſeaſes. The *therapeia* treats of the general laws to be obſerved in the cure of diſeaſes, and of the general nature of the remedies. This includes ſurgery and the *materia medica*. The uſefulneſs of a knowledge of mechanics appears moſt evidently in the practice of ſurgery. This art has, in fact, received the greateſt improvement within theſe hundred years, ſince the doctrine of mechanics came to be more generally underſtood.

The phyſiology, pathology, and therapeutics, form what are called the Inſtitutions of Medicine, and, by ſome, the Theory of Phyſic. The world has been ſo long abuſed by ill-founded, though ſometimes

ſometimes plauſible hypotheſes, aſſuming the name of Theories, that a general prejudice now prevails againſt the very expreſſion *Theory of Phyſic*, as if it contained nothing but uſeleſs diſquiſitions, a diſplay of arrangement, ſubtle diſtinctions chiefly nominal, and an eſtabliſhment of general principles, many of them falſe, and others ſo vague or ambiguous as to be incapable of any uſeful application. But this is a falſe repreſentation of the theory or inſtitutions of medicine. Theſe ought to contain every fact tending to illuſtrate the animal oeconomy either in its ſound or diſeaſed ſtate, and every fact that may be uſeful to a phyſician in forming indications of cure. Theſe facts ought to be accurately arranged, ſo as either to eſtabliſh general principles, or at leaſt to point at them, eſpecially at ſuch as lead to practice. In this view, the inſtitutions become

become a natural preliminary to the practice of phyſic.

A knowledge of the *materia medica* is intimately connected with the practice of medicine. It contains the doctrines of the various means by which a phyſician operates, and a hiſtory of the effects of medicines. In this branch the uſe of chemical knowledge is apparent. It teaches how to preſerve and ſeparate the uſeful parts of medicines. But, in order to underſtand pharmacy, the knowledge of chemiſtry is indiſpenſible. For want of this knowledge, at leaſt for want of a proper application of it, true pharmacy has, till of late, been little underſtood.

The effects of medicines on the human body are ſometimes to be explained upon mechanical, ſometimes upon chemical, principles;

principles; but much oftener depend on the effects they produce upon the nervous ſyſtem; and, in conſequence of theſe, upon an exceſs or deficiency of the various animal motions and ſecretions.

The ſcience of botany is ſubſervient to the practice of phyſic, ſo far as it facilitates the knowledge of plants by reducing them into the moſt commodious ſyſtem; and, though it is not neceſſary for a phyſician to be particularly acquainted with the name and hiſtory of every plant, yet he ought to be ſo well grounded in the principles of botany, as to be able to find its place in the ſyſtem, and to be particularly acquainted with thoſe plants which are either uſed in diet or in medicine.

I have now ſhortly explained the connection

nection of the ſeveral branches of phyſic with the *praxis medica*, which comprehends the *hygieine*, or the method of preſerving health and prolonging life, and the application of general pathology, and general therapeutics, to the hiſtory and cure of particular diſeaſes.—It will naturally then be aſked, Is a perſon unqualified for the practice of phyſic and ſurgery, who is not maſter of all theſe parts of learning, which have been deemed to be neceſſary preliminaries? To this it may be anſwered, That one may, in ſome meaſure, practice medicine as he may do a mechanic art, without much knowledge of its principles. A ſailor may navigate a ſhip, who knows little of the principles of navigation; and a perſon may make a dial, who know nothing of aſtronomy, ſpherical trigonometry, or the projection of the ſphere. It is the ſame

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in all the other practical arts of life; and yet, in all these, there are obvious advantages arising from a knowledge of the principles on which they are founded. But in medicine, the necessity of being acquainted with the *principia* of the art is much greater; because there can be no general rules laid down for the practice of physic, which can be applied in all cases. Differences of age, of constitution, of climate, and many other circumstances, occasion variations in the application of the plainest remedies that can be prescribed; and, without a knowledge of the principles of his profession, a physician must be often at a loss. It will be readily acknowledged, that there have been many physicians successful in practice, who, at the same time, were deficient in the knowledge of the foundations of medicine. But this has been owing to their uncommon

uncommon genius and ſagacity, which enabled them to apply what little knowledge they had with judgment, and conſequently with ſucceſs; while, perhaps, another phyſician, better founded in his profeſſion, for want of this natural genius and ſagacity, has blundered in his practice, by a wrong application of his knowledge. Beſides, as medicine is ſo complicated a ſcience, many of thoſe who ſtudy it regularly, take a particular attachment to ſome of its parts, and theſe ſo far engage their attention, that they neglect the ſtudy of the other branches. In conſequence of this, ſome of our profeſſion have been diſtinguiſhed for their ſkill in anatomy, chemiſtry, and botany, who, nevertheleſs, have been very indifferent phyſicians. But, although a profound knowledge of theſe ſciences is inſufficient of itſelf to make a good practical phyſi-

cian, yet no man of ſenſe will infer from thence that they are not eminently uſeful.

I do not inſiſt here on the neceſſity of a minute knowledge of theſe ſciences; nor indeed could time be ſpared to acquire it. A particular acquaintance with the appearance of the muſcles, in all the various motions and attitudes of the body, is a ſtudy more neceſſary to a painter, or to a ſtatuary, than to a phyſician; and, in this view, they ought to be expert anatomiſts. If chemiſty is proſecuted in its full extent and application to all the uſeful arts, it is a boundleſs ſtudy: ſo is botany, if we would be acquainted with every circumſtance of every plant. It is therefore neceſſary, that a ſtudent, while he endeavours to make himſelf maſter of the leading and fundamental principles of

theſe

theſe ſciences, ſhould always have an eye to their application to his own profeſſion, and bend his attention to that quarter.

On the whole, I hope, it will appear, that a phyſician who underſtands the principles of his profeſſion, who has an extenſive acquaintance with every branch of natural knowledge connected with it, who properly applies his knowledge, and who has genius and attention equal to others, muſt have a great advantage, as a practical phyſician, over one who is ignorant of the principles of medicine, and of the ſciences connected with it. Genius and ſenſe are, indeed, the peculiar gifts of Heaven, and cannot be acquired by the moſt extenſive learning, or the greateſt efforts of induſtry. But, with theſe aſſiſtances,

tances, genius and ſenſe are capable of the higheſt improvements.

Beſides the above-mentioned branches of learning, which are in a manner eſſential to the rational practice of phyſic, there are others which, though they may be deemed rather ornamental, yet an accompliſhed phyſician ſhould not be ignorant of.

It may be reaſonably expected, that every gentleman ſhould be acquainted with the hiſtory of the ſcience which he profeſſes. The hiſtory of medicine is not a ſubject of mere curioſity. To a phyſician, it is an uſeful and intereſting inquiry. It is indeed an unpleaſant taſk, and, at firſt view, ſeems an uſeleſs one, to inquire into the numerous theories that have influenced the practice of phyſic in different ages.

ages. Of theſe there has been a ſucceſſion which, in their turn, have been admired, and which have greatly influenced the practice of phyſic, and afterwards ſunk into deſerved oblivion. If their bad effects had ceaſed with the follies which gave them birth, it would have been unneceſſary to revive their memory. But this has not been the caſe. A wrong practice, introduced in conſequence of a prevailing theory, ſoon becomes diffuſed among people who are no judges whether the theory itſelf be well or ill founded. A phyſician of ſpirit and ingenuity, perhaps, riſes up, and ſhews the abſurdity of the theory; but it is not in his power to remove its pernicious conſequences in practice. Theſe were ſoon ſpread among a thouſand ignorant people, who had adapted them to a theory of their own: for it muſt be obſerved, that the moſt illiterate

pretenders

pretenders to phyſic have their theories; and ſuch pretenders, partly from ignorance, partly from pride, and partly from habit, are, of all others, the moſt obſtinately attached to them.

A thorough knowledge of the hiſtory of phyſic, by diſcovering the ſources of the maxims and remedies adopted in practice, will naturally make a phyſician ſuſpicious of thoſe which were introduced by falſe reaſoning or ſuperſtition. Yet it muſt be owned, that ſome valuable remedies have ſometimes been diſcovered in conſequence of abſurd theories. Another advantage attending a knowledge of the hiſtory of phyſic, is its bringing us acquainted with ſome efficacious remedies which time and other accidents had thrown into diſuſe.

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The change of manners, and the variations of our ſpeculative ſyſtems of phyſic, have, in ſome degree, contributed to the leſs general uſe of certain bold but ſucceſsful remedies employed by the ancients; as might be exemplified in the caſe of cauteries, the application of various exerciſes, of frictions and of unctions, and in other inſtances. The hiſtory of medicine likewiſe ſhews us, how the revolutions of time bring back really the ſame fanciful hypotheſes, which only by a change of terms have been repeatedly obtruded on the world.

Although the progreſs of medicine, ſince the age of Hippocrates, has indeed been ſlow, conſidering the number and abilities of its profeſſors, yet it has made conſiderable advancement ſince that time. The hiſtory of phyſic ſhews how it has been

been gradually improved by accidental diſcoveries, by the raſh attempts of empirics, by the accurate and faithful obſervations of ſagacious phyſicians, and by the ſober and diffident reaſonings of men of true medical and philoſophical genius. Nor ſhould it be thought, that even the moſt fanciful hypotheſes that have prevailed in phyſic have been entirely uſeleſs. The zeal of ſupporting a theory, however falſe, has given riſe to ſome important experiments. Enthuſiaſtic chemiſts, who boaſted of a command over nature, and truſted to the efficacy of their own medicines, have ſometimes performed ſurpriſing cures and by ſuch remedies as no phyſician would have ventured on. On the other hand, Stahl and his followers, who truſted almoſt every thing to Nature, have advanced the art by their diligent attention to the hiſtory of diſeaſes, and to the

operations

operations of Nature in performing the cure.

I am at a loſs what advice to give you in relation to the ſtudy of mathematics, becauſe I diſtruſt my own judgment on this ſubject. I am afraid I am partial to a ſcience to which I had a kind of innate and hereditary attachment, and which was the buſineſs and pleaſure of my early days. An acquaintance, at leaſt, with the elements of this ſcience is certainly neceſſary, if we would make any progreſs in natural philoſophy; and I have already ſhewn how intimately that ſcience is connected with a thorough knowledge of the animal oeconomy. The application of mathematics to medicine, towards the end of the laſt century and the beginning of the preſent, was productive of ſome good conſequences. Among others, it contri-

buted to baniſh the falſe hypotheſes of the Galenical and chemical ſects, and that ſcholaſtic jargon which had involved phyſic in unmeaning verbal altercations. It introduced a more liberal ſpirit of inquiry into every branch of medicine; a greater attention to experiments and obſervations, and a greater degree of clearneſs and preciſion in medical reaſoning. I acknowledge, however, that this ſtudy has often been abuſed. Many of the mathematical phyſicians were unfortunately perſuaded that all the phenomena of the animal oeconomy were explicable on mechanical principles alone: But the impoſſibility of applying theſe upon ſome occaſions, and the too haſty application of them upon others, often led to very falſe concluſions. Indeed, any perſon accuſtomed to the accuracy, perſpicuity, and elegance of geometrical reaſoning, muſt ſee with ſome indignation

indignation the parade of mathematical language, and the proſtitution of the word *demonſtration*, ſo frequently miſapplied. From what I have ſaid, you may perceive that I do not recommend the ſtudy of mathematics as leading directly to any important diſcoveries in medicine, but from a perſuaſion that, beſides its ſubſerviency to natural philoſophy, it has a tendency to quicken the invention, to open the mind, and to accuſtom it to a habit of cloſe and accurate reaſoning. But, let me caution you againſt entering too deeply into this moſt bewitching of all ſtudies, which will probably divert your attention from the main ends of your profeſſion. Let me alſo deſire you to guard againſt its leading you to a diſpoſition to ſcepticiſm, and ſuſpenſe of judgment in ſubjects that do not admit of mathematical evidence. Remember that habits of nice

diſcrimination,

diſcrimination, though frequently uſeful, are ſometimes incompatible with the buſineſs of common life, and of your own profeſſion.

I hope I have no need to recommend to you a thorough acquaintance with the Latin tongue. A phyſician's reading muſt be confined within very narrow bounds, who is unacquainted with what has been the univerſal language of the learned in Europe for ſo many ages, and which ſerves to communicate their ſentiments, from one nation to another, ſo eaſily and ſo quickly. The intereſts of learning will very ſoon ſuffer by its diſuſe, and by the preſent mode of authors writing in their own native language. But I muſt here take notice of an error, which they who value themſelves on their knowledge of Latin are apt to fall into,

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and which has contributed, more than any thing, to this growing evil. What I mean is, too great anxiety about claſſical purity, and elegance of expreſſion. The intention of language is to convey our ideas with clearneſs, force, and preciſion. If theſe can be joined to a ſtyle truly claſſical, it is a great additional beauty; but, from the numerous improvements made by the moderns in all the arts and ſciences, there have ariſen many ideas and objects, which the Roman claſſics could have no expreſſions for, becauſe they did not know them. An author, therefore, who has occaſion to expreſs theſe ideas, is under a neceſſity of latinizing words in his native language, in order to expreſs his meaning, or of adopting Latin words uſed only by authors of inferior note. If he is determined to uſe no phraſe but what is ſtrictly claſſical, he muſt, on many occaſions,

occaſions, either ſuppreſs what he wiſhed to ſay, or he muſt loſe that honour he gains by elegance of diction in the more ſubſtantial points of energy, preciſion, and perſpicuity. We have the peculiar advantage in our profeſſion of having in Celſus a ſtandard for purity and elegance of medical Latin; but there are ſtill a variety of medical ideas, ariſing from the improvements in the ſcience, to be expreſſed, which neither Celſus, nor any Roman writer, could be poſſeſſed of.

I muſt here recommend to you the ſtudy of that copious, expreſſive, and harmonious language the Greek, in which ſome of our oldeſt, and ſome of our beſt authors have written; particularly Hippocrates, the father and founder of medicine. Almoſt all the medical terms of art are Grecian; a knowledge, therefore, of

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that language muſt evidently facilitate your progreſs in the profeſſion. Beſides, it is unbecoming a phyſician, who pretends to a liberal education, to be in the daily uſe of terms to whoſe original he is a ſtranger.

The neceſſity of a knowledge of the French is apparent. Almoſt all the authors of that nation, many of whom are very valuable, write in their own language; it is likewiſe become ſo univerſal in Europe, that every gentleman who travels muſt neceſſarily make himſelf maſter of it.

It may appear at firſt view ſuperfluous to recommend an attention to your own language. But it is well known, that many phyſicians of real merit, have expoſed themſelves to ridicule by their ignorance

norance of or inattention to compoſition. It might be expected, that every one who has had the education of a gentleman, ſhould write his native language, with at leaſt grammatical exactneſs; but, even in this reſpect, many of our writers are ſhamefully deficient. Elegance is difficult to attain; and, without great taſte, dangerous to attempt. What we principally require in medical writings, is perſpicuity, preciſion, ſimplicity, and method. A flowery and highly ornamented ſtyle in theſe ſubjects is entirely out of its place, and creates a juſt ſuſpicion, that an author is rather writing from his imagination, than copying from Nature. We have many bulky volumes in medicine, which would be reduced to a very ſmall compaſs, were they ſtripped of their uſeleſs prefaces, apologies, quotations, and other ſuperfluities, and confined to the few

few facts they contain, and to close inductive reasoning.—What I would principally recommend to you in every species of medical writing, next to a simple and candid history of facts, is a strict attention to method. I am no admirer of that display of system and arrangement so remarkable in some writers, who split their subject into endless divisions. This may strike a young reader, not accustomed to such kind of writing, with an high opinion of the author's ingenuity and accuracy; but in general it is a mere deceit. It is a mode of writing easily attained, and was in the highest perfection when the scholastic logic, which consisted rather of nominal than real distinctions, was held in admiration.

I must however observe, that the composition of a book of science intended only

for the perusal of our own faculty, and that of one addressed to the public in general, upon a subject in which they are particularly interested, and which they are capable of understanding, may, and ought to be different. In the first, the qualities I just now mentioned are alone necessary. The intention here is only to investigate truth, to communicate discoveries, to relate new facts, or to exhibit those already known in new lights and combinations. The book is addressed to men who must be supposed willing and ready to give it a fair and impartial review. But in a medical work addressed to the people, the design may be to make them not only think rightly but act properly, not so much to instruct as to reform. It must therefore be written in such an agreeable manner as may entice them to read it. Not only must the sub-

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ject be ſtript, as much as poſſible, of all technical terms, and made perfectly level to their capacities, but the author may be allowed to paint the truths it contains in lively colours, and in ſuch a manner as to warm the imagination, and intereſt the feelings. Without this, a few ſpeculative men may afford it a cold approbation; but the book will not be generally or well received. Its merits, in regard to the facts it contains, and the juſtneſs of the reaſoning from thoſe facts, can perhaps be properly decided only by the faculty: Its merits as a compoſition muſt be eſtimated by the public approbation, and the good effects it produces.

It would require too much time to enumerate all the qualifications that might be deemed ornamental to a phyſician. In general, there is no reaſon why he ſhould

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be excluded from any amuſement, or any accompliſhment, that becomes a gentleman. On the contrary, theſe give an agreeable relaxation from the ſeverer ſtudies and fatigues of his profeſſion; they render his converſation more cheerful and entertaining; and, inſtead of that aukward pedantry, by which modern men of learning have ſometimes been diſtinguiſhed, they diffuſe an ingenuous and liberal air over his whole behaviour.

LECTURE IV.

General views and principles to be attended to in the inveſtigation of Nature.—Advantages attending the ſtudy of Nature—favourable to religion.—Natural hiſtory of man, what it includes.—Every event in Nature happens in conſequence of general laws.—Theſe laws how aſcertained.—Original principle of belief in mankind.—Experience how attained.—Evidence of our ſenſes ſometimes fallacious, ſometimes deficient.—Conſequences of truſting to a limited experience.—Reaſoning by analogy—deducing general principles by induction from particular facts.—Errors we are led into by our impatience to aſcertain theſe principles.—Deception from imaginary analogies.

logies. Advantages of philoſophical diffidence. —Neceſſity of reaſoning and of eſtabliſhing general principles, particularly in medicine. —State of the controverſy between the Empirics and dogmatiſts.

THE works of Nature are of infinite extent and variety; but, amidſt all this variety, there is, as I have already remarked, ſuch an intimate connection, that no one part can be thoroughly underſtood by ſtudying it entirely detached from the reſt. In our inquiries into the various branches of the works of Nature, there are certain general views and certain general principles of inveſtigation, to be particularly attended to. The general views to be attended to, in the ſtudy of Nature, reſpect, 1. The advantages it brings to individuals. 2. Public utility.

1. The advantages to individuals that attend inquiries into Nature, are ſufficiently obvious. Theſe inquiries give exerciſe to many of the active powers of the mind; they gratify curioſity, the love of truth, and of whatever is great, beautiful, or wonderful: principles deeply implanted in human nature.

2. In regard to public utility, they promote all the uſeful and elegant arts, all the arts that tend to the happineſs and ornament of human life. A profound knowledge of Nature extinguiſhes pride and ſelf-conceit, by rendering men more deeply ſenſible of their ignorance, their errors, and the very limited ſtate of their faculties. It is favourable to the intereſt of religion, by exhibiting the moſt ſtriking proofs of the infinite wiſdom, power, and benignity of the Supreme Being, who

ſupports

ſupports this wonderful frame of things, by laws often, indeed, unſearchable in their nature by human wiſdom, but ſteady and uniform in their operation, and admirably fitted to promote the happineſs of his creatures. Such a knowledge muſt impreſs every heart endued with the leaſt portion of ſenſibility, or not ſtrangely perverted, with that awful veneration, that love and gratitude to the Divinity, that ſubmiſſion to his providence, and that reliance on his goodneſs, which alone conſtitute true devotion. It has been imagined by ſome, that very extenſive knowledge leads to Atheiſm; but there is not the leaſt ground for ſuch a ſuſpicion. A little learning is, indeed, a dangerous thing to a weak and conceited man, who, from a ſuperficial acquaintance with ſecond cauſes, is apt to overlook the Firſt and Great Cauſe. But to a ſound underſtanding,

derſtanding, extenſive knowledge is the trueſt teacher of humility; it ſhews how often men are deceived in their ſuppoſed acquaintance with ſecond cauſes; and that, even where many of theſe are clearly aſcertained, yet, in tracing the chain that connects them, the moſt acute and profound genius muſt ſtop ſome where, and at laſt refer them to a ſupreme intelligent Firſt Mover. While we attempt, however, to clear philoſophy from the charge of impiety, a very important diſtinction muſt be attended to. I will venture to maintain, that thoſe philoſophers have been the firmeſt ſupporters of religion, who have employed their genius and application in the inveſtigation of the works of Nature, and whoſe views in ſcience have been grand and extenſive. Among a multitude of examples I could bring to prove this aſſertion, I ſhall

mention only three of our own countrymen, Lord Bacon, Mr. Boyle, and Sir Iſaac Newton. Thoſe philoſophers, on the other hand, who have been the moſt diſtinguiſhed propagators of Atheiſm, have been men not much acquainted with the works of Nature, who ſearched for truth in their own little minds, not in the great world without them * ; men who, in regard to ſcience and the uſeful arts, have either neglected them altogether, inſtead of promoting them by obſervation and experiments, or corrupted them by metaphyſical ſubtleties, often indeed ingenious and plauſible, but which have never led to any uſeful diſcoveries or improvements.

The ſyſtem of principles merely hypothetical, fabricated by theſe men, and ſometimes

* Bacon.

ſometimes ſupported with much ſubtlety and ſome fancy, with a view to diſprove the evidence of a Divine Providence, of the immateriality of the ſoul, and of a future ſtate of exiſtence, ſhews a wonderful perverſion of the human mind. Surely, if we ever chuſe to ſoar into the regions of Fancy, it ſhould be from a deſire to amuſe, to mend the heart, to warm the imagination with pleaſing proſpects of the dignity of human nature, of Providence, and of futurity; and not with a view to degrade our nature, to infuſe ſuſpicions upon the moſt intereſting ſubjects, and to throw a damp upon every heart poſſeſſed of the common feelings of humanity.

There is no branch of natural knowledge ſo uſeful or intereſting, as that which relates to the human ſpecies; which

which is evident, when we conſider that it includes,

1. Medicine, or the art of preſerving health, of prolonging life, of curing diſeaſes, and of making death eaſy.

2. The arts of improving the different faculties of the human body; as ſtrength and agility; rendering us ſuperiour to pain, cold, hunger, and the many other evils mankind are ſubjected to.

3. The preſervation and improvement of beauty.

4. The laws of union between the mind and body, and the mutual influence they have upon one another. This is one of the moſt important inquiries that ever engaged the attention of mankind, and almoſt equally neceſſary in the ſci-

ences

ences of morals and of medicine. This laſt comprehends,

(a) The doctrine of the preſervation and improvement of the different ſenſes, external and internal, the memory, imagination, affections, and judgment.

(b) The hiſtory of the power and influence of the imagination, not only upon the mind and body of the imaginant, but upon thoſe of other people.

(c) The hiſtory of the ſeveral ſpecies of enthuſiaſm.

(d) The hiſtory of the various circumſtances in parents, that have an influence on conception, and the conſtitution and characters of their children.

(e) The hiſtory of dreams, with a view to our acquiring a power over them.

(f)

(f) The hiſtory of the power and laws of cuſtom and habit.

(g) The hiſtory of the effects of muſic, and of ſuch other things as operate upon the mind and body, in conſequence of impreſſions made on the ſenſes.

(h) The hiſtory of natural ſigns and language, comprehending the doctrine of phyſiognomy and outward geſture.

(i) Hiſtory of the power and laws of the principle of imitation *.

I mention theſe heads only as a ſpecimen, and not as a full enumeration of the many important articles contained under the natural hiſtory of the human ſpecies.

* Bacon.

cies. I mention them as examples of the general views to be regarded in our inveſtigation of Nature, and eſſentially connected with the ſcience of Medicine, but have taken no notice of the inquiries that relate to man in his moral, political, or religious capacity, as being foreign to my profeſſion.

I proceed now to lay down certain general principles, which require our attention in the inveſtigation of Nature, and ſhall endeavour to apply them more particularly to the ſcience of Medicine. When we look around us, we find objects connected together, in a certain invariable order, and ſucceeding one another in a regular train. It is by obſervation and experience alone, that we come to diſcover this eſtabliſhed order and regular ſucceſſion in the works of Nature. We have all the evidence

evidence which the nature of the thing admits of, to perſuade us that nothing happens by chance: nay, we have every reaſon to believe, that all events happen in conſequence of an eſtabliſhed and invariable law; and that, in caſes, ſimilar the ſame events will uniformly take place.

Here I muſt obſerve, that, antecedent to all reaſoning and experience, there is an original principle implanted in the human mind, whereby it is led to a belief that the courſe of nature is regular. In conſequence of this principle, whenever a child ſees any event ſucceeding another, he has an inſtinctive perſuaſion, that the ſame event will ſucceed it afterwards in the ſame circumſtances. This perſuaſion does not flow from any connection he ſees between the cauſe and the effect, nor from experience, nor from reaſoning of

any

any kind. So ardently do we deſire to find every thing that happens within our obſervation, thus connected with ſomething elſe, as its cauſe or occaſion, that we are apt to imagine connections upon the ſlighteſt grounds; and this weakneſs is moſt remarkable among the ignorant, who know leaſt of the real connections eſtabliſhed in Nature.—Credulity ſeems likewiſe to be an original inſtinctive principle, by which we are diſpoſed to believe, prior to experience, not only the language of natural ſigns, but alſo the language of artificial ſigns, as ſoon as they come to be underſtood. Hence the credulity ſo remarkable in children. They at firſt believe every thing that is told them to be true; and it is experience alone which teaches them to reſtrain this natural propenſity. Dr. Reid has treated this ſub-

ject with great acuteneſs, in his ingenious Enquiry into the human mind.

We obtain experience, either by the evidence of our own ſenſes, or by the teſtimony of others.

1. The teſtimony of our ſenſes, though generally conſidered as one of the higheſt degrees of evidence, is often fallacious, and often defective. The ſenſations excited in us, in conſequence of impreſſions made on our organs of ſenſe, depend on the following circumſtances:

On the ſtate of the medium through which the communication between the objects and the organs of ſenſation is made, e. g. the ſtate of the air, when we judge of viſible objects.

On

On the ſtate of the organs of ſenſation themſelves, every one of which may be vitiated in a variety of ways.

Our unaſſiſted ſenſes often fail us on account of the ſubtlety or minuteneſs of bodies, too quick or too ſlow motion, the object being too common, and many other cauſes.

Although the impreſſion is properly made on organs that are in their ſound ſtate, yet the ideas conveyed thence to the mind may be ſo varied and modified by the imagination, as entirely to miſlead the judgment. Thus every part of natural hiſtory, and medicine above all others, is crowded with facts atteſted by eye-witneſſes of ſuppoſed veracity, which, notwithſtanding, had never any exiſtence but in their own imaginations.

From

From a failure likewiſe of memory, and from imagination aſſuming its place, we believe upon the ſuppoſed evidence of our ſenſes, although in fact we never had ſuch evidence. We likewiſe often miſtake an opinion, or an inference of the underſtanding, for a fact eſtabliſhed by the evidence of ſenſe; for example, when we judge of the real magnitude of objects by their appearance. But, although, in ſome particular circumſtances, our ſenſes may be fallacious or deficient, yet we are led, by an irreſiſtible inſtinct in our nature, to truſt to them. All experimental knowledge proceeds upon this principle; nor can we make one ſtep in life without it. The very methods we uſe to diſcover the fallacies and deficiencies of our ſenſes, preſuppoſe ſuch a neceſſity to yield to their evidence, becauſe the appeal muſt always be made to this evidence.

2. The experience which we truſt to from the teſtimony of others, is liable to the ſame imperfections with our own, and often to the additional inconvenience of our uncertainty with regard to the accuracy or veracity of our authors.

Having examined the ſources of experience, I ſhall now proceed to conſider the manner in which mankind agree in applying it. I have already remarked, that men naturally believe, that what they have ſeen to happen in one caſe, will happen again in the ſame circumſtances; and that the ſame cauſes will always produce the ſame effects. This is equally true, both with regard to the philoſopher and the peaſant. The only difference between theſe two conſiſts in this; the peaſant concludes two caſes to be preciſely alike, becauſe they reſemble one another in their obvious

obvious appearances; the philoſopher, on the other hand, from a more enlarged experience, and more accurate obſervation, does not ſo eaſily truſt to appearances; he is aware of the various ſources of deception, and therefore examines every minute and latent circumſtance, before he ventures to form a judgment; and the difficulty of aſcertaining, with preciſion, the exact ſimilarity of caſes, makes the true philoſopher extremely ſceptical in drawing concluſions of what will happen, from what has happened. An African, who has ſeen water in a variety of circumſtances, but ſtill retaining its fluidity, concludes, that fluidity is eſſential to water, and will not believe travellers when he is told, that, in certain parts of the world, water often appears in a ſolid form. His miſtake does not proceed from truſting to experience, but from thinking he had

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ſufficient experience, when in reality he had it not. All that he could juſtly infer from his experience was, that water, in all the circumſtances under which he had ſeen it, would remain fluid. But water expoſed to a degree of cold ſufficient to congeal it, was a circumſtance in which he never ſaw it; therefore his experience could never tell him, what effect that cold would have upon the fluid, whenever it came to be expoſed to it.

Although facts afford the only ſolid foundation for genuine ſcience, yet, when we conſider them as unconnected with other facts, they convey but little inſtruction. The phenomena of Nature are infinite; but the capacities of the human mind, and particularly the memory, are limited. If theſe phenomena, therefore, were not reducible to certain general principles

principles or laws, our experience of particular facts could do us but little ſervice. But there is a ſtrong propenſity in the mind, to be delighted with analogies, to compare and connect facts that reſemble one another, and by this compariſon, to reduce them to certain general principles, to apply ſuch general principles to account for other effects, or to direct us in the production of them. The buſineſs of true philoſophy is, to avail itſelf of this natural propenſity, to diſcover theſe connections, and reduce them under certain general rules or principles, called *laws of Nature*. Our inclination to reduce particular facts to general laws appears from the anxiety which men ſhew to diſcover the cauſe of any uncommon event. The diſcovery of this cauſe infers no more, than the finding out that law of Nature, by which the event is produced. In our

inquiries

inquiries into Nature, after we have arrived at the knowledge of ſome general laws, by an accurate compariſon and arrangement of obſervations, we may, by comparing theſe laws together, diſcover laws ſtill more general; and thus, by a ſlow and cautious induction, we may advance to a knowledge of the moſt general laws that regulate the ſyſtem of Nature. But many obſtacles concur to prevent the eſtabliſhment of philoſophy upon this ſolid foundation; ſome of which I ſhall endeavour to explain.

1. The * impatience of men to reduce all knowledge, and to refer all events, to certain general laws, makes them unwilling to ſubmit to a ſlow, but ſure, method of inveſtigation. They attempt a ſhorter

* Bacon de Augmentis Scientiarum.

way of diſcovering thoſe laws, in which they are miſled, either by a falſe reaſoning from imaginary analogies, or by ſuppoſing the laws of Nature to be fewer and ſimpler than they really are. The conſequences of which are, the haſty reduction of the ſciences into imperfect and erroneous ſyſtems.

2. The pleaſure that men have in diſcovering analogies, makes them often imagine reſemblances between things, where in truth there are none, or none of any conſequence. Arguments from analogy very readily preſent themſelves to a warm imagination, while more direct and concluſive arguments, drawn from obſervation and experiments, often require painful attention and application; though, after all, they may prove inſufficient to eſtabliſh the wiſhed-for principle. I ſhall readily

readily acknowledge the uſefulneſs of analogies; they often facilitate the conception of things, which, without their aſſiſtance, could not eaſily be comprehended. It is likewiſe by reaſoning from analogies, that we are ſometimes led to anticipate many uſeful principles and diſcoveries. But we ought never to acquieſce in analogies, when we can obtain more direct evidence; as all that analogies can lead to, are but probable conjectures, commonly called Theories.

3. There is a certain intoxication, uſually attending the ſuppoſed diſcovery of general principles in ſcience, or of uſeful inventions in the arts, which renders men of warm imaginations blind to every difficulty that lies in their way, and often induces them even to ſuppreſs ſuch difficulties. The concealment of facts that

contradict

contradict a favourite hypotheſis, is not always owing to want of candour. Sometimes the author does not mention them, becauſe he does not ſee them; ſometimes he diſregards them; and ſometimes he conceals them, from the fear of creating a prejudice againſt what he thinks an important diſcovery. Every true philoſopher, however, will be particularly diffident of himſelf in this reſpect; and whenever he gets a glimpſe of a theory, will immediately ſet his invention at work, to contrive every experiment that can produce a direct evidence, either of its truth or falſehood.

This philoſophical diffidence is ſo far from diſcouraging, that it greatly promotes the inveſtigation of cauſes and general laws. A ſtate of ſuſpenſe is always diſagreeable; and the uneaſineſs it gives, becomes

becomes a powerful incitement to ſuch further inquiries as may remove it. A zealous attachment to theories, may not only lead into dangerous miſtakes, but, by betraying men into a falſe ſecurity, cut off every motive to farther inquiry. It is not a true philoſophical ſcepticiſm, nor a low opinion of our preſent knowledge, which checks the ſpirit of inquiry into the laws of Nature; it is a mean opinion of the human powers, which effectually chills the ardour of genius, and blaſts all grand and extenſive views of improvement.

In works addreſſed to the heart, that coldneſs and ſevere preciſion, ſo neceſſary in the inveſtigation of truth, have no place: imagination there is in her proper element, and the looſeſt and wildeſt analogies may be often admitted with propriety.

priety. A philoſopher may read a fairy tale with great delight, without giving the leaſt ground for calling in queſtion his taſte or underſtanding; but it reflects ſeverely upon both, if he reads with the ſame pleaſure a philoſophical inveſtigation, not founded in obſervations and experiments, but in the vagaries of a lively imagination; unleſs he he is ſenſible of its being a romance, and only allows himſelf to be charmed with the ſpirit or elegance of the compoſition.

4. There is, in matters of this kind, a ſpecies of ſelf-deceit, which deſerves particular notice. We often find thoſe people inveighing bitterly againſt theories and hypotheſes in philoſophy, who are themſelves (perhaps without knowing it) notoriouſly addicted to them. This is remarkably the caſe with medical writers, who

who commonly decry all reaſoning and principles in phyſic which differ from their own, as idle theory; and frequently declaim againſt theory, in ſuch a way as might ſeem to condemn all reaſoning and inveſtigation of cauſes and principles as uſeleſs and deluſive. But it ſhould be conſidered, that we cannot advance a ſtep in the purſuit of knowledge without reaſoning. In every uſeful experiment, and eſpecially in conducting a train of experiments, we muſt employ our reaſon; there muſt be ſome point in view, ſome anticipation of a principle to be eſtabliſhed or rejected, and reaſon muſt determine all the circumſtances to be attended to in making every obſervation, or experiment, with a view to diſcover the truth. Without reaſoning, or without truſting to certain principles, either eſtabliſhed or rendered probable, we could never be bene-

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fited by experience, becauſe we could never transfer it from the caſe we have ſeen, to the caſe immediately before us. For inſtance, I have a patient in an intermitting fever, which I propoſe to cure by the Bark. I ſhall ſuppoſe I have cured five hundred patients by this medicine formerly; but yet I know I never cured one whoſe condition, in reſpect of age, temperament, and other particulars, exactly correſponded with that of my patient. If, therefore, I give this medicine, I muſt reaſon upon this principle, that the Bark will univerſally cure this diſeaſe, notwithſtanding ſome difference of circumſtances. But this is a principle of which I have no direct and concluſive knowledge, but one which I have adopted by a probable reaſoning from analogy: and, in reality, it is not univerſally true, though phyſicians muſt proceed upon it in their practice, till fu-

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ture obſervation ſhall aſcertain the exceptions to it. Boerhaave, Hoffman, Stahl, and other ſyſtematic writers, exclaim againſt theories, meaning one another's theories; for each of them explain, though in a different, and often oppoſite manner, the proximate cauſe of every diſeaſe they treat of, and the mode of operation of every remedy they preſcribe, upon principles too hypothetical. Even Sydenham, though reputed a purely practical writer, is full of hypothetical reaſoning, which, however, had not the uſual effect of making him leſs attentive to obſervation; and, indeed, his hypotheſes ſeem to have ſat ſo looſely about him, that either they did not influence his practice at all, or he could eaſily abandon them whenever they would not bend to his experience.

It ſhould ſeem, upon the whole, that all phyſicians muſt reaſon; and that the only difference among them conſiſts in this, that ſome reaſon better than others. Some, for example, ſearch into the cauſes of diſeaſes, and the effects of remedies. Deeply ſenſible of the difficulty of the inquiry, and the various ways in which they may be deceived, they collect and arrange all the facts relating to the ſubject; when they have got a remote view of a leading principle, they attempt, by experiment, to bring a direct and concluſive proof of its exiſtence. If the proof turns out againſt it, they ſee, and candidly acknowledge their miſtake; if the caſe does not admit of a direct proof, they conſider their principle as only more or leſs probable, but never relinquiſh the purſuit. Theſe, I think, have a juſt claim to the title of *rational phyſicians*. Others, upon the foundation

dation of a few facts and vague analogies, form hypothetical principles; a creative imagination ſupplies materials, where they ſeem wanting; they employ their ingenuity to ſtrain facts into a correſpondence with them, and ſuch as will not bend to their purpoſe they reject, under pretence of their being falſe or incredible. In practice, they neglect particular obſervations; becauſe they think their general principles ſo well eſtabliſhed, as to want no confirmation. Such men aſſume the title of Rational Phyſicians. But ſurely every ſyſtem-builder, who has claſſed himſelf among the rationaliſts, cannot have a claim to this title; becauſe many of their ſyſtems are different and contradictory.

But from the days of Serapion, founder of the empirics, to the preſent time, there

there has been conſtantly a diviſion of phyſicians into two ſects, one pretending the ſtricteſt regard to obſervation and experience, but ſtigmatized by their opponents as quacks; the other aſſuming the name of rational or dogmatical phyſicians, but accuſed of being contemners of experience, and of being attached to imaginary hypotheſes, either wholly inapplicable to practice, or corrupting it with errors. This diviſion appears to me to have eſſentially hurt the intereſts of medicine; and as many ſtudents are apt to enliſt themſelves on the one ſide or the other, who can have no juſt idea of the nature of the diſpute, I ſhall endeavour to lay it open to its ſource, and ſhew how much men have been deceived and perplexed on this ſubject by the ambiguity of language. But it may be proper to premiſe a general view of of the ſtate

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of medicine before this controverſy exiſted.

There are no traces of any regular ſyſtem of medicine before the days of Hippocrates. The practice before his time ſeems to have been merely empirical; that is, founded on real or imaginary experience of the effects of remedies in particular diſeaſes, but without any proper regard to their ſymptoms or cauſes. It was beſides, as appears by the earlieſt accounts we have of it in Ægypt, confined to the prieſts, which was generally the caſe among the moſt ancient nations, who concealed it as a myſtery, interwove it with their religious ſuperſtitions, and exerciſed it with much artifice. Other inconveniences aroſe from the ſcience being, for many ages, confined to a particular

cular family in Greece, the deſcendents of Æſculapius.

It is evident that philoſophers who were not of this family, and who began to ſtudy medicine as a uſeful branch of natural philoſophy, were the firſt who introduced into it a more enlarged ſpirit of obſervation and reaſoning. The moſt diſtinguiſhed of theſe was Pythagoras; who, with a penetrating genius, inquired, with unbounded curioſity, into every part of nature. His warm imagination led him to a belief in genii, in magic, in viſionary harmonies and powers of numbers, which tinctured all his philoſophy, and conſequently his phyſic, with which it was connected. Succeeding philoſophers further corrupted medicine, by diſtorting every branch of it with the moſt chimerical hypotheſes.

In

In this condition it was found by Hippocrates. His ſagacity diſcovered to him the neceſſity of correcting theſe abuſes; and he ſet about new-modelling the art, and placing it upon the ſure baſis of obſervation. Hence he is ſaid to be the firſt who ſeparated the ſtudy of medicine from that of philoſophy. But, as he likewiſe endeavoured to eſtabliſh general principles from particular obſervations, he is conſidered as the father of the rational or dogmatical ſyſtem. It appears, however, from his works, that ſome part of the prevailing philoſophy, and even of the ſuperſtition of the times, ſtill adhered to him; but, on the whole, his reaſoning is more juſt than could be expected, conſidering the then low ſtate of anatomy, and other ſciences connected with medicine.

For

For ſome centuries after Hippocrates, medicine ſeems to have made no progreſs. Two of the greateſt men of antiquity, Plato and Ariſtotle, concurred, though in different ways, to check its improvement, not only during that period, but almoſt down to our times.

Plato, whoſe writings are diſtinguiſhed by the pureſt Attic elegance, will always be conſidered as one of the fathers of polite literature. But to view him as a natural philoſopher, he muſt be accounted a corrupter of almoſt every branch of it, and particularly of medicine. In his Timaeus, he has given a ſpecimen of his ſentiments relating to the animal oeconomy, which are the mere effuſions of a heated imagination. The ſublimity of his genius, which attempted to graſp the whole creation, and his irreſiſtible elo-

quence,

quence, captivated all ſucceeding philoſophers whoſe imagination was ſuperior to their judgment, by withdrawing their attention from the ſtudy of Nature under the ſpecious name of Contemplation. So that many of his wildeſt theological ideas have been introduced into our ſyſtems of phyſic, as well as into thoſe of divinity.

Ariſtotle poſſeſſed a moſt acute and comprehenſive genius. His writings, in many branches of knowledge, are deſervedly held in the higheſt eſteem, both for ingenuity and ſoundneſs of reaſoning. But I am only to ſpeak of ſuch of his works as relate to natural philoſophy and medicine. The writings of this philoſopher, though he does not treat profeſſedly of medicine, have had a more extenſive influence over it than thoſe of

any phyſician whatever. His philoſophical principles were ſimilar to thoſe of Plato, were hypothetical and viſionary, but ſupported with more plauſible arguments, and founded on a more extenſive knowledge of Nature. As his principles were adopted by Galen, almoſt all the ſyſtems of phyſic, till thoſe of the laſt century, were more or leſs derived from them. But the prejudice he has done to phyſic has not ſo much ariſen from his introducing into it falſe principles, becauſe time muſt have diſcovered this abuſe; it has ariſen from his having corrupted the true ſpirit of philoſophical inveſtigation. Under pretence of teaching men to reaſon with clearneſs and preciſion, Ariſtotle, or perhaps rather his followers the ſchool-men, ſtopped the progreſs of uſeful knowledge, by diverting the attention from experience and obſervation,

vation, and engaging it in the purſuit of uſeleſs ſubtleties, which profeſſed to penetrate into the deepeſt receſſes of Nature, but in reality ended in nothing but in uſeleſs jargon.

Different modifications of the doctrines of Plato and Ariſtotle, and of ſome others which time has buried in oblivion, confounded medicine with many abſurdities, and involved it in diſputes with which it had no concern. In this ſituation, it was found by Serapion, who maintained that this philoſophy was foreign to the art of medicine, the practice of which he confined to experience alone. He deemed it unneceſſary to inquire into any cauſes of diſeaſes, but ſuch as were evident, and therefore rejected anatomy, the diſſection of morbid bodies, and all inquiries into the remote and latent cauſes of them.

However

However abſurd ſuch a conduct would juſtly appear to us in the preſent improved ſtate of medical knowledge, in thoſe days it was plauſible. Phyſicians were then ignorant of every branch of natural philoſophy connected with their profeſſion, as well as of anatomy, phyſiology, and chemiſtry. If they had been ſenſible of their ignorance in theſe matters, their reaſoning might have been defective, but it would not have been erroneous, becauſe it would have ſtopped whenever they wanted facts upon which they could proceed. But this has ſeldom been the practice of philoſophers or phyſicians in any age: wherever obſervations have failed, fancy has always ſupplied their place; ſo that materials have never been wanting to eſtabliſh for a time, any hypotheſis whatever. I ſhall mention, as a ſpecimen of the medical philoſophy of ancient

times,

times, the following doctrine from Plato.

The firſt form which the elementary particles of matter received, was believed to be triangular. From the different ſizes and poſitions of theſe triangles, were produced the four elements, fire, air, water, and earth. Fevers were thus accounted for. If the fire exceeded, continued and ardent fevers were produced; if air, quotidian intermittents; if water, tertians; if earth, quartans. A method of cure in theſe diſeaſes was laid down, ſuppoſed to be correſpondent to the proximate cauſes juſt mentioned, and in many reſpects fully as abſurd. It is a leſſon of humility to find, that the human underſtanding, in a moſt enlightened nation, among men of the moſt diſtinguiſhed genius, could be weak enough to embrace ſuch chimeras for truths.

Serapion

Serapion had ſeveral followers among the ancients eminent for their abilities, who were diſtinguiſhed by the name of *Empirics*; but there have been ſo few among the moderns who had any pretenſions to learning or genius, that have openly profeſſed themſelves of this ſect, that the name of Empiric is now uſed as a term of reproach, and only applied to illiterate quacks. But, tho' all phyſicians, regularly educated, diſclaim the name of Empiric, yet, in effect, the ancient diſtinction between empirics and dogmatiſts is continued, in other terms, even to the preſent times. But it appears to me, that both parties have been to blame, not only in regard to their conduct as phyſicians, but in the looſe manner in which they have carried on the diſpute. In order to prove this, I ſhall endeavour to ſettle the meaning of ſome words that often

occur

occur in this controverſy, the ambiguity of which tends to perpetuate it.

An *empiric* properly ſignifies a phyſician who regards experience, and who is directed by it in his practice. In this ſenſe it is creditable to be an empiric.—Experience is ſurely the foundation of all knowledge in phyſic; the ultimate appeal muſt be made to it, and whatever aſſertion contradicts experience or facts, ought to be rejected as falſe. The appellation *Empiric*, however, is generally applied to one who, from obſerving the effects of a remedy in one caſe of a diſeaſe, applies it to all the various caſes of that diſtemper. But the names given to diſeaſes are in reality names annexed to a certain number of ſymptoms, rarely exceeding three or four. The ſame name therefore is given to all caſes where theſe ſymptoms occur; or, in other words,

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theſe caſes are referred to the ſame genus of diſeaſes, although, in many other reſpects, they are very different, and require a different treatment. Thus, under the genus of ſmall-pox, are comprehended ſeveral ſpecies, varying more from one another than an inflammation of the lungs from a rheumatiſm. There can therefore be no univerſal medicine for every caſe of the ſmall-pox, or indeed for any other diſeaſe; becauſe, though they may agree in the few ſymptoms which give the name, yet they may differ in regard to others of more conſequence. The application of a remedy in a diſeaſe muſt likewiſe be regulated by the various remote and proximate cauſes producing it, by the conſtitution of the patient, by his age and habit, by the ſeaſon of the year, the climate, and other circumſtances.

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Theſe truths are ſo well known to every perſon in the leaſt acquainted with phyſic, and one ſhould imagine are ſo obvious to common ſenſe, that it is ſurpriſing how any man could be ſo ignorant or impudent as to recommend an univerſal ſpecific for any one diſeaſe, and equally ſurpriſing how any man even of the loweſt underſtanding ſhould give the leaſt credit to ſuch an aſſertion.

From what I have ſaid, it appears, that empirics, notwithſtanding their pretenſions of relying upon experience alone, have in truth abandoned it.

There is an experience indeed, which, however extenſive, does not render a phyſician more ſagacious, or more ſucceſsful in his practice, becauſe it is not attended with the neceſſary obſervation. Some

ſet out with a belief in the infallibility of certain principles, and of remedies reſulting from thoſe principles, in the cure of diſeaſes. Theſe they are ſure to apply, as ſoon as they have fixed the name of a diſeaſe. They give no attention to the diſtinction to be made between the caſes, where their remedies have, or have not ſucceeded; they never vary their practice, nor liſten to any propoſed improvement, and conſequently cannot profit by any new diſcoveries.

The fate of medicine and that of agriculture have in this reſpect been ſimilar. Within theſe laſt thirty years, more real knowledge has been acquired in theſe two ſciences, and more facts aſcertained, than in many preceding centuries, while at the ſame time the uncertainty, and even falſity, of many of their principles have been

been demonſtrated. Yet what has been done, ſerves principally to ſhew phyſicians and farmers how much they have been hitherto deceived in their ſuppoſed experience, and to give them ſome idea of the extent and difficulty of their ſeveral profeſſions.

From the manner in which empirics in all ages have conducted themſelves, it is not ſurpriſing that their writings have tended ſo little to the advancement of the art; and that, on the contrary, they have had the greateſt ſhare in encumbering it with the many falſehoods under which it has laboured ſo long, particularly that important branch which relates to the effects of medicines.—It has been pretended, that ſuch empirical books as I have alluded to, may be uſeful to thoſe who are not bred to the profeſſion, and who

who wiſh only to acquire ſome knowledge of the practical part of phyſic. But this is ſo far from being the caſe, that theſe are the only people to whom ſuch books can be dangerous. A phyſician of real knowledge and practice may draw inſtruction, or catch hints from facts related in an imperfect manner, which will either be uſeleſs, or tend to miſlead others who have not theſe advantages. To ſuch, all the circumſtances relating to the exhibition of a remedy can never be too diſtinctly ſpecified. I ſhall give an example in the caſe of one, which I ſhall ſuppoſe recommended as almoſt infallible in the cure of a head-ach. How many queſtions occur here?—In what kind of head-ach has it been found ſerviceable? Did the pain ariſe from any affection within the head itſelf; from a congeſtion of blood; from a collection of water; from

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an inflammation of the brain, or of its membranes; or did it proceed from a diſorder in the alimentary canal; from acidity; from any putrid matter, or collection of viſcid phlegm in the ſtomach? Was the head-ach attended with fever; and with what kind of fever? Was it the conſequence of ſudden expoſure to cold or heat; or was it the effect of drunkenneſs, of wounds, or of other external violence; or of any ſtrong affection of mind? A variety of other queſtions might be properly propoſed in this example; and, unleſs theſe were diſtinctly anſwered, the practice is defective. In many caſes of a head-ach, the remedy could not be applied with any probability of ſucceſs, and in others its application might be attended with danger. Happily for mankind, by far the greateſt part of thoſe medicines which have been celebrated under the

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name of Specifics in particular diſeaſes, are either ſo very inſignificant, or at leaſt ſo trifling in the doſes in which they are adminiſtered, that they may be given with ſafety in any caſe whatever.

Having attempted to ſhew how little medicine has been benefited by the labours of the Empirics, I ſhall inquire how far its intereſts have been advanced by their opponents, who aſſume the name of Regular, Rational, or Dogmatical Phyſicians.

The term *dogmatic*, in its original ſenſe, implied only one who endeavoured to reduce his knowledge of diſeaſes to certain principles. It came afterwards to be adopted by phyſicians, who from weakneſs and vanity, pretended to practice, from a knowledge of the proximate cauſes of

of all diſeaſes. and of the mode of operation of all remedies. But now, in common language, the term Dogmatical is generally uſed in an unfavourable ſenſe, being applied to one who is conceited, dictatorial, and obſtinately attached to particular opinions.

The complaints againſt thoſe who aſſume the character of rational and dogmatical phyſicians, have been too loud and too frequent to be entirely without foundation. They have been accuſed of neglecting obſervation, of withdrawing the attention from the uſeful and practical part of medicine; of engaging the mind in diſquiſitions foreign to the main ends of their profeſſion; of corrupting every branch of medicine, by falſe reaſoning and ill-founded hypotheſes; and of diſguiſing, ſuppreſſing, and even forging facts,

facts, in ſupport of their viſionary ſyſtems. I am ſorry to ſay, that the hiſtory of medicine in all ages ſufficiently juſtifies theſe charges; but at the ſame time it muſt be obſerved, that they have been carried to an extreme. Some people, not ſatisfied with railing at all hypotheſes and theories, exclaim againſt all reaſoning in phyſic as manifeſtly tending to miſlead us. But here we muſt endeavour to aſcertain the meaning of ſome terms made uſe of in theſe complaints.

Reaſoning properly ſignifies the exerciſe of that power of the mind by which it infers one thing from another, or deduces concluſions from premiſes. Without the exerciſe of this power, we could neither act in the common affairs of life, unleſs when impelled in particular caſes by inſtinct, imagination, or paſſion; nor

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advance a ſtep in the inveſtigation of truth, beyond ſelf-evident principles. As then we muſt reaſon from the neceſſity of our nature, our buſineſs is only to take care that we reaſon juſtly. But falſe reaſoning is not more common in phyſic than in law, in divinity, or in the common conduct of life; yet no one ever inſinuated, that we ought to abandon the uſe of our reaſon in any of theſe ſubjects.

The chief objection to theory in phyſic proceeds from an ambiguity of words. The theory of a ſcience properly ſignifies the doctrine of the general eſtabliſhed principles of that ſcience, and is diſtinguiſhed from the practical art of applying thoſe principles to the uſes of life. Thus, for example, the theory of navigation does not conſiſt of hypothetical principles, but of ſuch as are eſtabliſhed on ſolid and

unqueſtionable foundations, and is diſtinct from the practice of navigation, which conſiſts in the application of thoſe principles with propriety and facility; an art to be acquired by habit and experience alone. There ought to be the ſame diſtinction between the theory and practice of phyſic; but, by a perverſion of language, the theory of medicine is repreſented by ſome as a pretended ſcience, conſiſting in reality of mere conjectures, and chimerical ſpeculations. In conſequence of this unfair repreſentation, which I formerly endeavoured to refute, an unhappy oppoſition has been eſtabliſhed between the theory and practice of phyſic, as if they were not only not eſſentially connected, but even at variance; as if the one was entirely a creation of the imagination, the other the reſult of ſagacious obſervation and experience: Whereas,

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in reality, theory, in the proper ſenſe of the word, is produced by practice, is founded on facts alone, and conſtantly appeals to them for its truth. The prejudice which many people entertain againſt hypotheſes in phyſic, is likewiſe founded on the equivocal ſignification of the word. It is commonly confounded with theory, but an hypotheſis properly means the ſuppoſition of a principle of whoſe exiſtence there is no proof from experience, but which may be rendered more or leſs probable by facts, which are neither numerous enough, nor adequate to infer its exiſtence. When ſuch hypotheſes are propoſed in the modeſt and diffident manner that becomes mere ſuppoſitions or conjectures, they are not only harmleſs but even neceſſary in eſtabliſhing a juſt theory in medicine. They are the firſt rudiments, or anticipations of princi-

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ples. Without theſe there could not be uſeful obſervation, nor experiment, nor arrangement, becauſe there would be no motive nor principle in the mind to form them. Hypotheſes then only become dangerous and cenſurable when they are impoſed upon us for juſt principles; becauſe, in that caſe, they put a ſtop to further inquiry, by leading the mind to acquieſce in principles which may as probably be ill as well founded. In this way they have done great miſchief in our ſcience; but one of the chief advantages of a regular education, and of ſtudying medicine on a ſyſtematic plan, ariſes from its rendering ſtudents more capable of diſtinguiſhing between real facts, and inferences of the mind miſtaken for them; between a viſionary hypotheſis, and a juſt theory.

LECTURE V.

*Error in ſuppoſing the laws of Nature to be fewer and ſimpler than they really are.—Natural diſpoſitions of men influence their literary character.—Exemplified in thoſe of lively and warm imaginations, and in thoſe who are calm, ſedate, and diſcriminating.—Bad conſequences of a fondneſs for the Marvelous.—Abuſes in the ſtudy of natural hiſtory.—Cauſes that have retarded the advancement of the ſciences—*1. *Inattention to their end, viz. the convenience and happineſs, of life.—*2. *Uſeleſs ſubtlety which may be diſplayed in different ways—too ſcrupulous regard to arrangement.—Obſervations on the ſubject of arrangement.—*3. *Credulity.—*4. *Attachment to great names.—*5 *Blind admiration of antiquity.—*6. *Fondneſs of novelty.—*7.

—7. *Haſty reduction of the ſciences into ſyſtems.*—8. *Too great attention to elegance of language, or an affected obſcurity of ſtyle.* —*The ſtudy of Lord Bacon's writings recommended.*

I Obſerved before, that in our inquiries into human nature, an impatience to acquire a knowledge of her laws, and a natural love of ſimplicity, lead us to think them fewer and ſimpler than they really are. The more we know, the more we diſcover the uniformity and ſimplicity of the laws of Nature, when compared with the vaſt extent and variety of her works; but ſtill we muſt not imagine that they are confined within the narrow limits of our knowledge or even perhaps of our comprehenſion. When by an extraordinary effort of genius, Sir Iſaac Newton diſcovered that all the planets gravitate towards the ſun, by the

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ſame law by which bodies on the earth gravitate towards its center, many phaenomena, whoſe cauſes we were till then ignorant of, were explained by this ſimple principle. But it ſoon came to be miſapplied to the explication of other phaenomena, which were afterwards found to depend upon very different laws *. Des Cartes founded his ſyſtem of the material world upon two principles, the exiſtence of matter, and a certain quantity of motion originally impreſſed upon it. Theſe, however, were found inſufficient; and it has been made evident that we muſt alſo admit the principle of gravitation juſt mentioned, coheſion, corpuſcular attraction, magnetiſm, electricity, and other powers, by which the particles of matter attract, and repel, each other.

* Dr Reid's Inquiry into the Human Mind.

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Even Sir Iſaac himſelf was led by analogy, and the love of ſimplicity, to conjecture, but with ſingular modeſty and caution, that all the phaenomena of the material world depended upon attracting and repelling powers in the particles of matter. But we have now reaſon to believe that he was deceived: for, even in the unorganized kingdom, the powers by which ſalts, cryſtals, ſparrs, and many other bodies, concrete into regular forms, can never be accounted for by attraction and repulſion in the particles of matter; and in the vegetable and animal kingdoms, there are evident indications of powers, of a different nature from thoſe of unorganized bodies. We are conſcious of an internal principle, which feels, which thinks, and which ſeems to be the origin of animal motions. We are, in a great meaſure, ignorant of its nature;

nature ; but we know, that it has laws peculiar to itſelf, and that, in conſequence of its union with the body, certain effects are produced, which the laws of matter are not ſufficient to explain.

We may here obſerve how the different diſpoſitions of men influence their literary character. We commonly find thoſe of a lively and warm imagination, moſt diſpoſed to attend to analogies, in which fancy often deceives them. Upon theſe they are too apt to eſtabliſh general principles, and to be ſo much attached to them, as not to ſee the objections to which they are expoſed. If, however, by any accident, their opinion of their principles comes to be ſtaggered, they too quickly relinquiſh them, while, perhaps, they may be in the main well founded, though embarraſſed with ſome difficulties,

which a little more patience and perſeverance might have conquered. To ſuch the world is ſometimes indebted for uſeful diſcoveries : They are themſelves often ruined by projects, from their neglect of ſome ſmall circumſtance neceſſary to their ſucceſsful execution, which a man of inferior parts, afterwards obſerving, robs them both of the honour and profit of their inventions. I ſhall farther obſerve, that this vivacity of genius is generally attended with an impatience, that renders men incapable of a proper attention to facts and experiments, and prevents their bringing any work to a concluſion.

There is a ſpecies of genius the reverſe of the former, calm, ſedate, and attentive to the differences of things ſeemingly alike ; that watches the operations of more lively

lively and inventive ſpirits, and too often expoſes their miſtakes to ridicule. There are, in truth, ſo few men of original genius who ſtrike out new paths in arts and ſciences, that they ſhould meet with every encouragement, particularly when they propoſe their opinions with modeſty. Men who go often out of the common road, muſt ſometimes go aſtray; but, as they now and then make important diſcoveries, their errors ought to meet with indulgence. Theſe two characters are ſometimes united in the ſame perſon in different degrees. One may poſſeſs that warm and lively imagination, ſo peculiarly fitted for invention, and, at the ſame time, a clear, accurate, and ſound judgment, that candidly conſiders every objection to his propoſed plans; and, according to the weight of evidence, can either reject them altogether, or preſerve

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his mind in a proper degree of ſuſpenſe, till their real merit is aſcertained. This happy union of genius and underſtanding, which we ſo rarely ſee, conſtitutes a philoſopher of the firſt rank and dignity.

In collecting a natural hiſtory, ſubſervient to the arts, and to become the foundation of a uſeful natural philoſophy, it is neceſſary to make a ſelection of facts, among the infinite number with which Nature preſents us. Our views ſhould be confined to thoſe which, being compared and arranged, may lead to general principles. The hiſtory, therefore, of any monſtrous production, which has nothing ſimilar to it, ſerves only to gratify curioſity. Yet this principle of curioſity, and love of the marvellous, is ſo prevalent among mankind, that all the *luſus naturae* are what principally attract their regard.

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If an animal comes into the world with two heads, we have preſently a minute deſcription of the monſter publiſhed all over Europe, though it is not a matter of the leaſt conſequence to the advancement of ſcience. This love of the marvellous is conſpicuous in ſome medical writers. We find them full of extraordinary caſes, ſuch as have nothing ſimilar to them, ſuch as never happened before, and conſequently ſuch as will probably never happen again, deſcribed with a tireſome minuteneſs; while the ſymptoms that diſtinguiſh ſome common diſeaſes from others of a different nature, which reſemble them, are far from being yet aſcertained. I do not mean here to object to the recording of every extraordinary event, as ſome of them may tend to throw light on the laws of Nature, in her ordinary courſe of proceeding. I only mean

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to cenſure this extravagant attachment to prodigies, when it leads us to neglect inquiries of more general utility.

The preſent faſhionable taſte for natural hiſtory, regards it more as an object of curioſity, than as the baſis of a ſound philoſophy, ſubſervient to medicine, agriculture, and the other uſeful arts. Every natural production is not only tediouſly deſcribed, but accurately delineated. Surely it is rather too much to beſtow a folio upon the natural hiſtory of a frog, in which that animal is painted in a great variety of attitudes. In this manner of extending natural hiſtory, it is evident that books may be multiplied beyond number, without bringing any acceſſion of uſeful knowledge.

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The advancement of the ſciences has been much retarded, by the following cauſes.

1. One of the chief cauſes * has been an inattention to the principal end of their cultivation; that is, public utility, or what contributes to the convenience and happineſs of life. Inſtead of this, moſt men have no other object in the purſuit of knowledge, than to gratify curioſity, for to give a variety to their amuſements, or to ſerve the purpoſe of vanity and oſtentation. Perhaps no ſcience has ſuffered ſo much as medicine by the neglect of its true end, which, as I before obſerved, is to preſerve health, to prolong life, and to cure diſeaſes. It has, indeed, made the ſloweſt progreſs of any

* Bacon de Augmentis Scientiarum.

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of the uſeful and practical arts; not ſo much from any deficiency of genius, as from a miſapplication of it; nor yet from want of learning; for no profeſſion can boaſt of more men eminent in every branch of uſeful and polite literature. Phyſicians have not only ſucceſsfully cultivated every ſcience connected with their own profeſſions, ſuch as anatomy, botany, chemiſtry, and the various branches of natural hiſtory, but have often diſtinguiſhed themſelves as poets, mathematicians, and philoſophers. Yet how few phyſicians can we name, who, either by their genius or induſtry, have advanced the practical part of their own profeſſion! how many, on the contrary, could we name, who have corrupted it, by indulging their own imaginations, and even checked the ſlow improvement, which time naturally brings to every art founded

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on obſervation and experience! But the reaſon why medicine has made ſuch ſlow progreſs, in compariſon of the other practical arts, may be partly referred to the difficulty and intricacy of the art itſelf, and partly to ſome peculiar diſadvantages which the profeſſion lies under, and which I ſhall afterwards endeavour to explain.

2. There is a certain metaphyſical ſubtlety, which is not only uſeleſs in our inquiries into nature, but does real miſchief, by giving genius and induſtry a wrong direction. This involved all ſcience, for many ages, in darkneſs and controverſy. It was carried to the greateſt length by the ſchoolmen, many of whom having great acuteneſs, abundance of leiſure from their monaſtic life, little acquaintance with good authors, and ſtill leſs with the works of Nature, ſpun out

of a ſmall quantity of matter, thoſe cob-webs of learning, curious indeed for the fineneſs of the thread, but of no ſubſtance or utility. As their writings conſiſted of ſubtleties, and a play of words; as they occaſioned perpetual wranglings, and led to no uſeful conſequences, the wiſer part of mankind became diſguſted with them; ſo that now the old ſchool-philoſophy has fallen into univerſal contempt. This philoſophy corrupted no ſcience more than medicine. From the days of Galen, till the middle of the laſt century, all the inſtitutions of phyſic were filled not only with the doctrine of elements and temperaments, but with inquiries, Whether the procuring of health be the deſign or end of medicine? whether diſeaſe is a quality or relation? and ſuch like. They were generally diſputes about words; and whenever the terms were

were defined, the controverſy was at an end. It is really melancholy to reflect on the induſtry, erudition, and often genius, that was waſted in ſuch diſputes as diſgrace the human underſtanding, and was employed in corrupting an art, that more requires attentive and ſagacious obſervation, than metaphyſics, to bring it to perfection.

An uſeleſs ſubtlety may be diſplayed in two ways; either in the proſecution of inquiries of no importance, but of difficult inveſtigation; or by treating important ſubjects in a way that leads only to fruitleſs ſpeculation and controverſy. We have examples of the firſt in the old ſchool-logic, and in moſt metaphyſical diſquiſitions, ancient or modern. I acknowledge the uſefulneſs of ſuch, conſidered as an exerciſe for young minds.

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They may ſharpen the invention, ſtrengthen and improve the reaſoning faculty, and tend to fix the attention; but when long dwelt upon, they withdraw the attention from the ſtudy of Nature and the practical arts; they tend to make men rather ingenious diſputants than ſolid reaſoners, and beget a habit of wrangling upon every ſubject, extremely diſagreable in converſation. The practice of balancing things with a finical preciſion, is unfavourable to the enlarged views of genius, the advancement of the ſciences, and the ſucceſsful management of buſineſs in private life. Theſe require only an attention to probabilities, to leading principles, and to the great outlines of objects, a quick diſcernment where the greateſt probability of ſucceſs lies, and habits of acting, in conſequence of this, with facility and vigour.

We

We treat important ſubjects in a manner that leads only to fruitleſs ſpeculation and controverſy, when we labour in a minute diſcuſſion of ſuppoſed neceſſary preliminaries, and points which we fancy to be eſſentially connected with them, though, in reality, they have no connection at all, or a very remote one. It is the ſame uſeleſs labour, when we pierce beyond certain limits into Nature, and attempt the inveſtigation of cauſes, either beyond our reach, or ſuch as, if known, could lead us to no uſeful conſequences. Thus philoſophers, before Sir Iſaac Newton appeared, often attempted to explain the cauſe of gravity. But that great man contented himſelf with inveſtigating the laws according to which it acts, and only propoſed a conjecture of its cauſe in the modeſt form of a query. The laws according to which gravity, magnetiſm, and

electricity

electricity act, are a proper ſubject of inquiry; becauſe they are within our reach; and becauſe the knowledge of them leads to the moſt uſeful conſequences: But their cauſes will probably ever elude our deepeſt reſearches, nor, perhaps, would the diſcovery be uſeful. The reciprocal influence of the ſoul and body is one of the moſt important inquiries in medicine; but an inveſtigation into the nature of this union, is equally obſcure and unneceſſary.

3. There is another ſpecies of uſeleſs ſubtlety, which conſiſts in a ſcrupulous exactneſs, in regard to arrangement and method. Theſe ſhould, without doubt, be attended to in treating of any ſubject, but are peculiarly neceſſary in all the departments of natural hiſtory. The proper diſtribution of plants, and other productions,

ductions, into their ſeveral orders, genera, and ſpecies, is a great aſſiſtance to the memory, and leads to the knowledge of their virtues. But a complete claſſification is a matter of the greateſt difficulty, and can never be attained, without a knowledge of all the particulars propoſed to be claſſed. It may be attempted upon different principles, as is the caſe with the various ſyſtems of botany, and though one of them may, upon the whole, be more perfect than the reſt, yet each of them may have its peculiar advantages. In the ſame manner, diſeaſes may be claſſed according to their ſymptoms, their remote or proximate cauſes; and in various other ways, all of them very imperfect, but each uſeful in ſome degree.

There are many conveniences attending a proper arrangement of diſeaſes. By bringing

bringing thoſe together that have a natural affinity, the hiſtory of one diſeaſe throws light on that of another, and by comparing the circumſtances in which they agree, general principles are formed in regard to the genus or order. But this advantage can attend only the arrangement of diſeaſes upon the principle of natural and real affinity; as for example, in intermitting fevers, topical inflammations and haemorrhages; but it cannot be obtained from arrangements purely artificial. The different orders of diſeaſes comprehended by noſological writers under the claſs of *cachexiae*, do not agree in any circumſtances of real connexion, from which the claſs can be defined. Moſt, even of the particular genera forming its different orders, are diſſimilar in every material circumſtance. A proper arrangement of diſeaſes is of ſervice, by making

making it eaſy for a phyſician, who finds difficulty in a caſe of practice, to compare it with ſimilar ones related by authors. It likewiſe facilitates the communication of obſervations by ſhortening deſcriptions.

The want of clear and preciſe definitions has been the cauſe of much confuſion and diſputation in medicine, as well as in other branches of ſcience, abſtract mathematics excepted. It ſeems now to be agreed, that it is moſt convenient, on the whole, to define the genera of diſeaſes by a ſimple enumeration of ſuch ſymptoms as are moſt conſtantly preſent, as are obvious to the ſenſes, and which ſerve to diſtinguiſh them from others which they moſt reſemble. Definitions of diſeaſes ought not to include any hypotheſes in relation to their proximate cauſes, nor ſhould they at all point at

ſuch hypotheſes; otherwiſe phyſicians, unleſs their opinions of proximate cauſes are the ſame, can never agree in annexing the ſame ideas to the ſame words. When diſeaſes are defined by a ſimple enumeration of obvious ſymptoms, there is little room left for diſagreeing about the name to be given to any patient's complaints. Definitions of diſeaſes ought, as far as poſſible, to be taken from ſymptoms exiſting together; but ſometimes it is neceſſary, in order to characterize the diſeaſe, to enumerate ſymptoms as they occur in ſucceſſion, as in the caſes of intermittent and exanthematous fevers. They ſhould not, if it can be avoided, include ſymptoms which happened in the beginning of the diſeaſe, of which perhaps the patient can give no account; nor ſhould they depend upon the duration of a diſeaſe, becauſe that is always uncertain.

Sometimes

Sometimes it is neceſſary to include the external or occaſional cauſe of the diſeaſe in the definition, ſince the ſymptoms alone are not ſufficient to diſtinguiſh it from others of a different nature. But the external cauſe ſhould never make a part of the definition, unleſs it be obvious. Eſtabliſhed names ought not to be changed without ſome very urgent reaſon; but whenever medical writers have generally agreed to give a name to a certain aſſemblage of ſymptoms, that term ſhould, on no account, be applied to a different aſſemblage, to prevent confuſion.

After all, it is impoſſible to define the genera of diſeaſes with ſuch accuracy, as not to leave it doubtful, ſometimes, to what genera ſome particular caſes ſhould be referred. There is greater difficulty in giving a ſyſtematic arrangement of diſ-

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eaſes than of bodies in natural hiſtory, ariſing from the frequent uncertainty of their diagnoſtic ſymptoms, from their ſymptoms not being permanent, and from the frequent complication of diſeaſes with one another.

They who have hitherto attempted to claſs diſeaſes methodically, have differed widely from one another in regard to the number, diſtribution, and definitions of the claſſes, orders, and genera. What ſome have enumerated as genera, others have conſidered as ſpecies or as ſymptoms; nor perhaps is it poſſible for human ingenuity to remove the difficulties and imperfections attending every attempt of this kind, until the knowledge of particular diſeaſes, and the ſcience of medicine, is rendered perfect.

It is evident therefore, that this ſubject of arrangement preſents an ample field for diſputes, by which the attention is diverted from the ſtudy of diſeaſes themſelves, and of the proper method of treating them, to fruitleſs ſpeculations about the order in which they ſhould be ranged. I call them fruitleſs, only ſo far as they waſte too much of that time and attention which might be more uſefully employed. Upon this ſubject I muſt recommend to you Dr. Cullen's arrangement of diſeaſes, as being natural and ſimple, and alſo on account of the clearneſs and preciſion of his definitions.

If we carry our ſtudies in natural hiſtory no farther than to a juſt arrangement, and a knowledge of names, what we have learned is of no more conſequence, than the knowledge of a Greek

grammar,

grammar, and of the words in a Greek dictionary, would be to one who was never to look into a Greek writer. I ſpeak of natural hiſtory with regret, as I ſee its principal purpoſe too much neglected. I ſee it ſtudied rather as a matter of curioſity, or as furniſhing ſubjects of ingenious ſpeculation, than as ſubſervient to real utility. It is of little importance to ſettle the claſſes, orders, and genera of plants, in compariſon of aſcertaining their uſes; yet the one ſubject has been attended to very cloſely, the other has been worſe than neglected; it has been corrupted by many falſe facts, eſpecially in what relates to medicine. Much pains have been taken to place thoſe worms that infeſt the human body in their proper ranks, and to examine their ſtructure with the greateſt accuracy; but little proportionable care has been taken to aſcertain

aſcertain the ſigns of their exiſtence in the body, the ſymptoms they produce there, and the moſt effectual method of deſtroying them. I cannot, however, omit, on this occaſion, doing juſtice to the merits of the great Linnaeus, who has diſplayed ſo original a genius, in reducing all the ſubjects of natural hiſtory into ſo perfect and beautiful a ſyſtem. Nor has he ſtopt here; he has ſhewn the moſt enlarged ſpirit of obſervation, in applying natural hiſtory to the uſeful purpoſes of life, particularly to agriculture and medicine.

4. The advancement of the ſciences has been much retarded by the credulity of thoſe who have cultivated them. This credulity diſcovers itſelf by an eaſy acquieſcence in what are aſſerted to be facts, although not properly authenticated; in

a fond belief in the powers of certain deluſive arts, in a bigotted attachment to ſome great names, or in a ſuperſtitious veneration for antiquity.

(a) An eaſineſs of belief, in regard to facts, by admitting them without authority, has corrupted every branch of natural knowledge, but none of them ſo much as medicine. Facts depending upon the animal oeconomy, muſt be difficult to aſcertain; becauſe it is ſubjected to ſudden and unexpected changes, from various cauſes which we cannot trace, and often not depending on any material cauſes, but on ſome unknown affection of the nervous ſyſtem. A heated imagination, therefore, may eaſily magnify them, and fraud may eaſily counterfeit them, whilſt, at the ſame time, it is difficult to detect the error. Hence our accounts of

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the effects of remedies ſtill remain full of uncertainties and falſehoods; while many other branches of natural hiſtory, chemiſtry in particular, have of late been happily cleared of them. Medicine ſuffers more from this cauſe than even from theories. The weakneſs of a theory is eaſily detected. The underſtanding of one ſenſible man is ſufficient for this. But it frequently requires the united labours of many to diſtinguiſh facts that are fully and candidly repreſented, from ſuch as are falſe or exaggerated; nor can it be done until an opportunity offers of repeating the obſervation or experiment, perhaps at the riſque of a patient's life. I do not mean to inſinuate here, that no facts ſhould be admitted into natural hiſtory, or medicine, but ſuch as are thoroughly eſtabliſhed. I mean only to ſhew the impropriety of mixing uncer-

tain reports and undoubted truths, without making a proper diſtinction between them. Whatever is aſſerted to be a fact, although ſomewhat extraordinary, and ſupported by ſlender authority, yet deſerves to be recorded, till the truth of it can be aſcertained: nothing ſhews more ignorance of Nature, or more ſelf-ſufficiency, than to reject facts merely becauſe we cannot account for them.

(b) A fond belief in the powers of certain arts, particularly aſtrology, natural magic, and alchemy, has greatly retarded the progreſs of knowledge, by engroſſing the attention of men of genius, and by introducing, into medicine eſpecially, a multitude of falſe facts, founded on ſuperſtition and deluſion. Theſe arts, which promiſed to be of uſe in life, laid ſuch hold on the imagination, that no power

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of reaſon was able to free men from their enchantment. At the ſame time, they have accidentally given riſe to ſome curious diſcoveries, and their effects on the mind would furniſh ſome excellent materials for the hiſtory of the human imagination.

(c) A bigotted attachment to certain great names, has done much miſchief to ſcience. The hiſtory of philoſophy exhibits to the world, from time to time, ſome man of diſtinguiſhed ingenuity who has erected a ſyſtem. This ſyſtem has been adopted for a few years. Learned men have commented upon it; ſome have diffuſely explained it, others have abridged it. In the mean time, none of thoſe authors roſe higher than their ſource; few of them ſo high. In the ſucceſſion of a few years another original genius has ariſen,

ſen, expoſed the weakneſs of his predeceſ-ſor's ſyſtem, and eſtabliſhed another in its ſtead. This, after having the like honours paid to it by commentators, expoſitors, and epitomiſers, has ſunk, in its turn, into contempt and oblivion. This has been the fate of medicine, from the days of Hippocrates down to the preſent time, when there appears to be a general diſpoſition to throw off the ſhackles of authority, to appeal to Nature in matters of fact, and to aſſert the right of private judgment in matters of opinion and reaſoning. I do not mean to inſinuate the poſſibility of every individual's thinking for himſelf in theſe matters. Nature never intended the bulk of mankind either to think for themſelves, or to act from principles of their own. I only mean to expreſs my regret, that men, bleſſed with ſuperior talents, ſhould be ſwayed by an

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authority they ought to have controuled, and ſhould aſſent to doctrines, which a little exerciſe of their own judgments would have ſhewn to be ill-founded.

(d) Another obſtacle to the improvement of ſcience, ſimilar to the former, has been a blind and ſuperſtitious veneration for antiquity. It is inconceivable to thoſe who are acquainted only with the preſent ſtate of the learned world, and with the free ſpirit of inquiry that now prevails, to what an abſurd height this attachment to antiquity was formerly carried; how much it has cramped the efforts of genius, and retarded the progreſs of knowledge. Yet if we conſider the ſource of this attachment at the time when it chiefly prevailed, it appears to have been natural and excuſable. Upon the decline of the Roman empire, all the uſeful

uſeful ſciences and elegant arts decayed apace, and at laſt, by ſucceſſive irruptions of Barbarians, were entirely extinguiſhed. A cloud of ignorance overſpread mankind till towards the end of the fifteenth century. From time to time, however, ſome ſparks of genius broke through the gloom, and fortunate accidents preſerved ſome of the moſt valuable remains of ancient arts and wiſdom. Medicine underwent the fate of the other ſciences, and ſlept in the ſame darkneſs. About the middle of the fifteenth century, Conſtantinople was taken by the Turks, and many of the Greek manuſcripts found there, were brought into Italy by Theodore Gaza. The noble art of Printing was diſcovered about the ſame time, which ſoon ſpread thoſe treaſures of antiquity over Europe. About this period, ſo important in the annals of hiſtory, and ſo big with

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great events, men began to wake out of that lethargy in which they had been ſo long ſunk. Upon the firſt diſcovery of the Greek and Roman writers, the viſible ſuperiority of their ſenſe, their taſte and their elegance, beyond what the world had ſeen for many ages, was ſoon perceived and acknowledged. It was therefore to be expected, that men of ſcience and ingenuity ſhould at that time have employed themſelves in recovering, tranſlating, and commenting on the remains of antiquity which had eſcaped the ravages of time and barbariſm, and lain for many centuries buried in the cells of monks. How much was the world obliged to thoſe reſtorers of learning! The immediate effects produced by the recovery of the ancient writers, ſhewed clearly in what their principal excellency conſiſted. All the fine arts, painting, ſculpture,

ture, architecture, ſpeedily roſe to a high degree of perfection. Purity of language, and an elegant ſimplicity of compoſition, eſpecially in poetry and hiſtory, were particularly ſtudied. But natural hiſtory and natural philoſophy remained much neglected. The reaſon was this: in all works of taſte and imagination, in poetry, in eloquence, in ſimplicity, correctneſs, and elegance of compoſition, the ancients poſſeſſed an excellence hitherto unrivalled. In abſtract mathematics, likewiſe, they will ever remain as ſtandards of that clearneſs and preciſion which ſhould be the characteriſtics of mathematical reaſoning. But in natural hiſtory, and in natural philoſophy, they were not equally ſucceſsful. This was owing partly to their not having beſtowed ſufficient attention on thoſe ſubjects, and partly to this, that theſe ſciences depend for their advancement

advancement, not ſo much on the genius of one man, as on the accumulated labours of many. Thus a Homer, an Apelles, a Praxiteles, or a Demoſthenes, may have carried poetry, painting, ſculpture, or eloquence, as high, or higher, than any who have ſucceeded them; becauſe, when theſe men died, their arts, in a great meaſure, died with them. But in natural hiſtory and natural philoſophy, the caſe is widely different; becauſe every man, who applies to any branch of theſe ſtudies, may avail himſelf of all the labours and improvements of his predeceſſors. As the knowledge of Nature, then, at the revival of learning, was in a low ſtate; and as little light was thrown on it by the writings of the ancients, it continued to lie almoſt neglected, till towards the middle of the laſt century; men of learning and ingenuity, be-

fore that time, generally devoting their attention to theological ſtudies, the fine arts, and the different branches of polite and ancient literature.

The ſame warm admiration of antiquity which prevailed in other ſciences at the reſtoration of learning, very properly attached phyſicians to the ancient writers in their own profeſſion. It had been happy, however, for mankind, if, inſtead of a blind admiration of Hippocrates, juſtly ſtyled the father and founder of medicine, they had imbibed ſome portion of his ſpirit for obſervation. Hippocrates will always be held in the higheſt eſteem, for his accurate and faithful deſcription of diſeaſes, for his candour, his good ſenſe, and the ſimple elegance of his ſtyle. But, inſtead of proſecuting his plan, and building on the foundation

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he had laid, his ſucceſſors employed their time in commenting on his works. Galen began with writing largely on what he reckoned the genuine productions of Hippocrates, in which he endeavours to reconcile all his ſeeming contradictions, and to prove the truth of his obſervations by a variety of arguments, not founded on his own extenſive experience, but on the Ariſtotelian philoſophy; ſome of them, indeed, ſubtle and ingenious, but for the moſt part weak and ſophiſtical. This manner of commenting on books of obſervations, is extremely abſurd. The firſt inquiry here ought to be into the truth of the facts. Till theſe are confirmed by ſimilar obſervations, it is a waſte of time and labour, to attempt an explanation of their cauſes. Hippocrates has left us a number of excellent obſervations together with ſome that are found

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to be true only in certain caſes, and under certain limitations; ſome peculiar to the climate and country in which he lived; ſome ſo obſcure that they cannot be underſtood; ſome ill founded; and a great number that ſeem curious and important, in regard to which not one of his numerous commentators has taken the trouble to inquire, whether they were true or falſe. Every one of them has, after the example of Galen, attempted to prove the truth of his obſervations, not by ſimilar obſervations of their own, but by hypothetical reaſoning, drawn from the prevailing philoſophy of the times they lived in. Thus the noble foundation of obſervations begun by Hippocrates, and the example he has ſet of faithful and accurate deſcription, have, in a great meaſure, been neglected, while phyſicians, in all ages, have fondly attempted

tempted to ſupport their oppoſite theories by his authority, in which they were favoured by the obſcurity of ſome parts of his writings. Not only his obſervations, but his opinions, (of which indeed he was very ſparing), till very lately, were oppoſed to the authority of facts, which appealed for their truth to the experience of every man of candour and common ſenſe; ſo that a phyſician, in writing his own obſervations, found himſelf under a ſort of neceſſity to ſhew that they agreed with thoſe of Hippocrates, at leaſt that they did not contradict them. The effect of this was, that the truth of Nature was often perverted, in order to make it correſpond to the ſentiments of Hippocrates, or even to the authority of Galen. This introduced a corruption into the very ſource of all ſolid knowledge in medicine; and, at the ſame time, encouraged

ged a pompous diſplay of learning in writing on medical ſubjects, that waſted the time and tired the reader, who wanted to know what Nature ſaid, not what Hippocrates and Galen thought, in medicine. Neither is this pedantry yet extinct in Europe; there being few medical books written in ſome parts of it, which are not ſtuffed with numerous quotations from the ancients, containing ſome trite obſervations, that anſwer no other purpoſe, but to make a parade of erudition.

5. Another obſtruction to the progreſs of ſcience, the reverſe of the former, has been a fond attachment to novelty. This proceeds partly from a principle in the human mind, which is gratified with whatever is new, independently of other conſiderations; partly from an anxiety to diſcover truth upon an intereſting ſubject, which

which makes us often graſp a ſhadow for a ſubſtance; and partly from a diſpoſition to believe whatever we wiſh to be true. The uncertainty of the methods of cure, in many diſeaſes, makes patients, and ſometimes phyſicians, eagerly adopt any new method that promiſes a more effectual and ſpeedy remedy. This is the ſource of that univerſal propenſity to give credit to the extravagant accounts of the effects of noſtrums and quack medicines. Theſe are recommended to a patient, with an aſſurance of their infallibility, an aſſurance which no prudent or honeſt phyſician gives to any remedy in any diſeaſe whatever. From the ſame cauſe we have ſeen, in our own times, many remedies highly praiſed for their efficacy, in almoſt every diſorder, and ſoon after neglected; ſuch as, cold water, crude mercury, ſoap, tar-water, lime-water, ſea-

water,

water, Ward's medicines, and even ſome of the poiſons. All theſe, in their turn, were deemed infallible; and when time diſcovered the folly of this expectation, they have been with the ſame precipitation almoſt wholly laid aſide; as if a medicine could not be uſeful in the cure of any one diſeaſe, becauſe it was not ſucceſsful in all. This attachment, however, to novelty, is not ſuch a bar to improvement, as a ſuperſtitious veneration for antiquity. The former, from time to time, is bringing new acceſſions to knowledge; the latter keeps the active powers of the mind ſuſpended in a vain admiration of what, perhaps, was of ſome value in the infancy of ſcience, but what is now univerſally known. A phyſician of coolneſs and ſagacity may avail himſelf of theſe temporary intoxications of the public, in regard to ſuch remedies, as they

they give him an opportunity of aſcertaining the effects of ſome, from ſeeing them adminiſtered in larger doſes, and for a greater length of time, than patients would otherwiſe be perſuaded to take them. The paſſion for novelty is indeed particularly excuſable in medicine; becauſe it is natural for us to be pleaſed with what ſeems, not only to bring an acceſſion to our knowledge, but to communicate ſome uſeful diſcovery.

6. The haſty reduction * of any ſcience into a ſyſtem, apparently full and perfect in all its parts, while, in reality, theſe parts are ill filled up and erroneous, is a bar to its farther improvement. The intention of theſe ſyſtems is to place a ſcience in the moſt favourable light. It

* Bacon.

is, therefore, delivered in a magiſterial manner, ſo as to acquire credit without examination; and hence a ſcience deſcends in the perſons of maſter and ſcholar, not of inventor and improver. Men are generally attached to ſyſtems, becauſe they free them from the impatience of doubting, and promiſe them certain principles, on which their minds may ſecurely reſt; and teachers find it contributes both to their intereſt and reputation, to reduce the ſciences into ſyſtems, ſeemingly complete. One who appears well acquainted with the principles of a ſcience, and who ſeems to entertain no doubt of their ſoundneſs, makes a better appearance, than one who doubts, and fairly owns that he does ſo. The bulk of mankind are not judges of the merit of men of deep ſcience, and are ready enough to allow to pretenders the conſequence they aſſume,

aſſume, if they do not too much over-act their part. I have already endeavoured to ſhew the propriety of proſecuting inquiries into Nature upon a regular and methodical plan. In teaching a ſcience, it is equally neceſſary to proceed upon a plan of arrangement. But, till all the facts and principles included in a ſcience are fully eſtabliſhed, it is impoſſible to reduce it into the form of a regular ſyſtem; and there are many circumſtances relating to arrangement, which, in the mean time, muſt remain undetermined. It is, therefore, ſometimes better to uſe the unconnected aphoriſtical manner, than to attempt an order, or at leaſt to be very ſolicitous about an order, where there are no certain principles to lead to it.

It has been the fate of medicine to ſuffer, in a particular manner, from this

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rage of ſyſtem. It has fallen, at different times, into the hands of Galeniſts, Chymiſts, Carteſians, Mathematicians, Stahlians, and ſome other ſects compounded of theſe; each of whom have moulded the whole ſcience into a form, ſeemingly complete in all its parts. It has been tinctured with myſtical divinity, aſtrology, and all the ſubtleties of ſchool philoſophy, according to the different attachments of phyſicians to thoſe ſtudies. But, notwithſtanding the diſadvantages attending theſe ſyſtems, a phyſician of genius will be able to draw from them ſome uſeful information.

7. The laſt impediment * I ſhall mention to the progreſs of ſcience in general, has been, too great attention to purity and elegance of language, on the one hand; and, on the other, an affected ob-

* Bacon.

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ſcurity and intricacy of ſtyle. In works of taſte, and addreſſes to the paſſions, a language highly ornamented may be very proper; elegance, ſublimity, pathos, are there in their proper place. But the language in which ſcience is to be communicated, ſhould be ſimple, perſpicuous, and diveſted of all artificial ornaments. Original writers, who have new ideas to communicate, are often obliged to uſe new words and phraſes, the better to convey their meaning; which ſurely they, and they only, have a right to do, provided they clearly define them. An affected intricacy of ſtyle is now, in a great meaſure, laid aſide. The uſe of technical terms, where others equally clear and expreſſive can be found, is regarded as pedantry, or a cloak to conceal ignorance. This cenſure may ſometimes be carried too far, but in general it is juſt. That

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learned jargon, which ſo long diſgraced philoſophy, was introduced from a principle of vanity, or for the unworthy purpoſe of excluding from ſcience, all who were not of the profeſſion. But it evidently retards the advancement of ſcience, when men attend more to words than to things, whether it be in an affected diſplay of learning, or in a ſcrupulous regard to purity of expreſſion or elegance of compoſition.

Let me take this opportunity of recommending to your ſerious ſtudy the writings of Lord Bacon, who of all men poſſeſſed, perhaps, the moſt enlarged and penetrating genius. He has explained the method of acquiring knowledge, and promoting ſcience, with incomparable judgment and perſpicuity. He has likewiſe left us ſome beautiful ſpecimens of true philoſophical

philoſophical induction, particularly in his Hiſtory of the Winds. This, and ſome other of his eſſays in natural hiſtory, are to be conſidered in no other light, than as ſpecimens of his method of carrying on inquiries into nature. The facts they contain are not to be depended on: he was obliged to take ſuch as were then generally received, which, whether true or falſe, equally ſerved his purpoſe. He uſes a language peculiar to himſelf: It has been cenſured, and perhaps juſtly, as being too figurative, which renders it in ſome places obſcure; but in general it is well fitted for communicating ſcience, being clear, noble, and expreſſive.

LECTURE VI.

Peculiar diſadvantages under which medicine has laboured.—Inconveniencies attending the method in which it has been uſually taught, entirely from the lectures of profeſſors, or from books.—The advantages of a regular attendance on the ſick, during the whole time in which a phyſician is ſtudying his profeſſion, particularly ſpecified.—Duties of a profeſſor of medicine.—Inconveniencies ariſing from the abſolute confinement of the ſtudy and practice of phyſic to a claſs of men who live by it as a profeſſion.—Advantages of laying the art open, and of gentlemen of ſcience and abilities, who are not of the profeſſion, ſtudying it as an intereſting branch of philoſophy.—Attempt to ſhew that this would tend to promote the intereſts

intereſts of humanity, by diffuſing the benefits of the art; that it would facilitate the improvement of medicine; that it would moſt effectually ſupport the dignity of the profeſſion, and ſecure the ſucceſs of every individual belonging to it, in proportion to his real merit.— Concluſion.

I Endeavoured in a former lecture to explain ſome of the principal cauſes that have obſtructed the progreſs of ſcience in general; and, where it was neceſſary, applied my obſervations particularly to phyſic. I thought it neceſſary to explain to you my general ſentiments, in relation to the improvement of knowledge; becauſe it gave me an opportunity of communicating my leading principles in the ſcience of medicine. But, before I conclude the ſubject, a regard to truth and candour obliges me to take

notice of ſome peculiar diſadvantages attending medicine, and which ſeem to have retarded its progreſs. This I do, not from a deſire to expoſe the weakneſs of a profeſſion, the honour of which my inclination, and many ties, lead me to ſupport; but merely with a view to eſtabliſh this honour upon a liberal and ſolid foundation; and to put you on your guard againſt certain errors and inconveniencies, to which you might otherwiſe be expoſed. As I have the misfortune to differ from many of my brethren on this ſubject, while I propoſe my own ſentiments with freedom, I wiſh to do it with a proper deference to their judgment. The peculiar cauſes which have retarded the progreſs of medicine, beſides the difficulty and intricacy of the art, formerly mentioned, appear to me to have ariſen partly from the manner in which it has been

been uſually taught, and partly from its having been confined to a ſet of men who live by it as a profeſſion.

In the firſt place * it muſt be obſerved, that the general method of conducting education in univerſities, does not ſeem ſo well calculated to advance ſcience as to diffuſe it, not ſo well fitted to promote particular arts, as to communicate general principles. Thoſe who teach the ſciences, often make uſe of various allurements with their ſtudents; ſometimes with the laudable view of engaging their attention; ſometimes from a deſire to give a dignity to their own characters, by pretenſions to diſcoveries, by the triumph of confutation, the oſtentation of learning, or the veil of myſtery. For the

* Bacon.

conveniency

conveniency of teaching medicine, it has been uſual to adopt the ſynthetic plan; that is, to lay down general principles, eſpecially ſuch as relate to the proximate cauſes of diſeaſes, and the mode of operation of remedies, and to mention facts ſo far only as they ſerve to illuſtrate thoſe principles, or as they are clearly deducible from them. Medicine likewiſe, as uſually taught in univerſities, inſtead of being repreſented as an art imperfect in its moſt material branches, inſtead of having its deficiencies pointed out, with a view to their being ſupplied, is digeſted into a regular and ſeemingly perfect ſyſtem. In this light it is beheld by the ſtudent, who embraces hypotheſes with the ſame facility and unſuſpecting confidence as he would do facts eſtabliſhed on the teſtimony of his ſenſes; he imagines he underſtands the cauſes of all

diſeaſes,

diſeaſes, and the manner in which remedies act in removing them; his mind is at eaſe in having always firm principles to reſt on. But how fallacious theſe principles have generally been, is ſufficiently evinced in the hiſtory of medicine, which ſhews that they have been conſtantly fluctuating. For example, a morbid acrimony of the blood has been aſſigned as the proximate cauſe of certain diſeaſes; the nature of this acrimony has been ſpecified; the manner in which occaſional cauſes have produced it, has been explained; plauſible indications of cure have been laid down in conſequence of theſe ſuppoſed diſcoveries; remedies have been preſcribed correſpondent to theſe indications, and their operation in deſtroying the acrimony has been pointed out. Yet perhaps, upon farther inquiry, it may be found that there is no evidence of any

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acrimony exiſting in theſe diſeaſes; or that, ſuppoſing there is reaſon to ſuſpect in general that there may be ſuch a diſorder in the blood, we are ſtill ignorant of its ſpecific nature; that we do not know in what manner the external cauſes produce the ſymptoms, whether by firſt vitiating the blood, or by acting immediately on the nervous ſyſtem; that, from our uncertainty in regard to theſe circumſtances, the indications of cure become likewiſe uncertain; that there is no proof of the remedies acting in the manner which had been ſuppoſed; and that, perhaps, ſome of thoſe remedies, though in repute for many ages in the cure of ſuch diſeaſes, have either no effect at all, or at leaſt none in the doſes commonly given. In ſhort, it may ſometimes be found, that all we certainly know of the matter, is, that certain external cauſes

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produce thoſe diſeaſes; that experience has aſcertained the effects of ſome remedies in curing them; and that this experience is the only rational baſis on which we can ground our future practice.

A ſtudent, however, is ſeldom aware of the fallacious nature of ſuch hypothetical ſtructures, as he is a ſtranger to the circumſtances on which they are founded. They appear plauſible, well connected, and are particularly grateful, as they tend to conceal the difficulties of the profeſſion.

Medicine has little chance of acquiring improvement from a phyſician educated in the faith of ſyſtems, becauſe he ſcarcely ſuppoſes it admits of any. He treats his patients according to the eſtabliſhed rules, and when they die, he is

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ſatisfied that every thing was done for them that art could do. It might be ſuppoſed that enlarged experience, and the riper exerciſe of his underſtanding, would remove his prejudices; but a little acquaintance with mankind ſhews, that early and ſtrong impreſſions are with great difficulty erazed; every circumſtance that tends to confirm them, is readily attended to, while every one that tends to weaken them, is overlooked or ingeniouſly explained away; ſo that time ſeems frequently to confirm our errors.

It is, indeed, difficult and painful for men to give up favourite opinions, and to ſink from a ſtate of ſecurity and confidence into one of ſuſpenſe and ſcepticiſm. Accordingly we find that phyſicians do not eaſily change the principles they firſt ſet out with. We have remarkable examples

amples of ſome, who, after having written ſyſtems of medicine early in life, have lived to be old, have been admired for their genius, have had extenſive practice, and though their ſyſtems in the mean time had gone through many editions, yet no material alteration has been made in them ; a proof how much they were attached to their firſt opinions.

Although the principles of the medical art are originally eſtabliſhed by inveſtigation, or induction from particular facts, yet it would be both tedious and unpleaſant to teach it entirely upon this plan. I am therefore of opinion, that the beſt method of teaching it, is to unite the ſynthetic method, which is moſt commodious for communicating knowledge, with the analytic one, which leads to improvements and inventions. If medical educa-

tion was conducted in this manner, a ſtudent would be, in ſome degree, an eye-witneſs of the obſervations and experiments upon which the principles of the ſcience are founded. For example, if he were daily converſant among the ſick, he would enjoy many advantages beyond what can be derived from books or lectures. Some of theſe I ſhall mention.

1. Whatever one ſees, makes a deeper and more laſting impreſſion on his mind, than what he learns from deſcription.

2. There are many circumſtances relating to diſeaſes and remedies, of which it is difficult to convey a juſt idea, viz. different appearances of the countenance, ſtate of the pulſe, breathing, voice, ſmells, taſtes, and different degrees of heat, &c. Hence every experienced phyſician, or indeed

indeed artiſt of any profeſſion, knows much more than he is able to communicate.

3. Diſeaſes are deſcribed in ſyſtems as exiſting by themſelves; but in practice they are found complicated in ſuch various forms as no deſcription can ſpecify, and to which no general practical rules can be applied.

4. Medical facts are often related imperfectly; ſometimes from the author's inattention to the concomitant circumſtances, ſometimes from his thinking them of no importance. But the truth is, facts are ſeldom mentioned in ſyſtems, unleſs with a view to eſtabliſh a theory, or to recommend a medicine; and whatever facts are either not ſubſervient to theſe views, or are repugnant to them,

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are often but ſlightly mentioned, or ſuppreſſed. Medical writings likewiſe abound with falſe or exaggerated accounts of the effects of particular remedies, occaſioned by avarice, vanity, credulity, a warm imagination, or a weak judgement.

5. A ſtudent educated in this manner, acquires the habit of attention and diſcrimination; he brings the truth of general principles to the teſt of experience; he diſcovers the falſity of ſome of them, and learns to aſcertain the many exceptions and limitations to which others are ſubjected; he often finds the moſt plauſible indications of cure to be deluſive, and that among the numerous remedies recommended in conſequence of theſe indications, none are able to relieve the patient. By theſe means he acquires an early diſtruſt of all theories, however ſpecious.

6. He

6. He aſcertains the importance of the ſeveral branches of medicine, and of all medical inquiries, as relative to the main end of his profeſſion, the preventing or curing of diſeaſes; and regulates his application to them accordingly.

7. He becomes familiariſed to the humours and weakneſſes of patients; he acquires ſome addreſs in managing their tempers, and in ſoothing their diſtreſſes; a conduct which in certain circumſtances is of real conſequence.

8. He begins to acquire an addreſs in the management of the ſick, a quickneſs of apprehenſion, a compoſure and preſence of mind, and ſome deciſion and reſolution in ſudden emergencies. A young phyſician, who has drawn his knowledge only from books or lectures, although he may

may be ingenious and learned, and conſequently able to talk plauſibly, will yet be extremely embarraſſed when he enters upon practice—Medicine is not merely a ſpeculative ſcience to be acquired by ſtudy alone; it is an active and practical art, the proper exerciſe of which can be attained only by long practice. This is allowed to be the caſe in all the other practical arts, and the education in them is conducted accordingly. Let us ſuppoſe of a young man deſigned to be a ſailor, that for the firſt years of his education he ſtudies mathematics, natural philoſophy, and navigation, but has never been at ſea; when he makes his firſt appearance there, what muſt be his ſituation? He can talk of mechanical powers, of friction, of the nature of magnetical effluvia, of the theory of the Winds, and, in ſhort, ſhew himſelf maſter of every

branch

branch of his profeſſion, ſo far as ſpeculation could carry him. But can he handle a rope? can he go aloft and furl the ſails? can he make an obſervation in a rolling ſea? can he do any one uſeful work aboard the ſhip, or direct the ſailors how to navigate her in a ſtorm? Who would truſt himſelf to the direction of ſuch a ſea commander?—The caſe is much the ſame with a young phyſician who has had what is called a regular education, and is well grounded in every branch of his profeſſion except the practice; in which he muſt be defective, if he has not for ſome years diligently attended the ſick. A careleſs and irregular attendance on an hoſpital for a few months before he ſettles in buſineſs, is very inſufficient to qualify him for the important charge. I own, however, that a young man cannot reap much advantage

tage by attending the ſick till he is acquainted with the rudiments of phyſic: But there is no impropriety in his ſtudying and applying to practice at the ſame time; on the contrary, it is attended with the advantages above mentioned; and the ſhortneſs of the time uſually allotted for medical education, does not allow of their being ſeparated.

9. A phyſician who has been educated upon this plan, whoſe mind has never been enſlaved by ſyſtems, becauſe he has been a daily witneſs of their inſufficiency, inſtead of being aſſuming and dogmatical, becomes modeſt and diffident. When his patient dies, he ſecretly laments his own ignorance of the proper means to have ſaved him, and is little apt to aſcribe his death to his diſeaſe being incurable. There are indeed ſo few diſeaſes which

which can be pronounced, in their own nature, deſperate, that I ſhould wiſh you to annex no other idea to the word, but that of a diſeaſe which you do not know how to cure. How many patients have been diſmiſſed from hoſpitals, as incurables, who have afterwards recovered, ſometimes by the efforts of unaſſiſted nature, ſometimes by very ſimple remedies, and now and then by the random preſcriptions of an ignorant quack? To pronounce diſeaſes incurable *, is to eſtabliſh indolence and inattention as it were by a law, and to ſkreen ignorance from reproach. This diffidence of our own knowledge, and juſt ſenſe of the preſent imperfect ſtate of our art, ought to incite us to improve it, not only from a love of the art itſelf, but from a principle of hu-

* Bacon.

manity. I acknowledge, however, that ſuch a diffidence as I have deſcribed, if it is not united with fortitude of mind, may render a phyſician timid and unſteady in his practice; but, though true philoſophy leads to diffidence and caution in forming principles, yet, when there is occaſion to act, it ſhews how neceſſary it is to have a quickneſs in perceiving where lies the greateſt probability of ſucceſs; to be deciſive in forming a reſolution, and firm in carrying it into execution.

It is much in the power of a teacher of the art, to obviate the inconveniencies commonly chargeable upon ſyſtems. It is his duty, in treating of any ſubject, to give a full detail of facts, to ſeparate real from pretended ones, and to arrange them in ſuch a manner as may lead to the diſcovery of cauſes and general principles.

ciples. If theſe cannot be eſtabliſhed by a juſt induction, he may with propriety ſuggeſt an hypotheſis; but, while he gives his reaſons for thinking it probable, he ſhould, with equal impartiality, ſtate every objection againſt it: and far from throwing a veil over the numberleſs imperfections of his art, he ſhould be ſolicitous to point them out, and at the ſame time direct to ſuch obſervations and experiments as may tend to remove them. Senſible of the warm imagination and credulity of youth, of their proneneſs to admiration, and their eagerneſs to have every fact accounted for, he ought to guard againſt the errors into which theſe diſpoſitions may lead them, and ſhould endeavour to direct their ardour in the purſuit of knowledge to proper ſubjects; not to thoſe that merely amuſe the fancy, but to ſuch as exerciſe the powers of uſeful obſerva-

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tion and invention; to ſubjects of real and permanent importance.

I throw out theſe obſervations with freedom, becauſe I am well acquainted with the liberal ſpirit that prevails in this univerſity, in every departement of ſcience, and in none more than in all the branches of medicine. To this univerſity I owe, in a great meaſure, my own education; but there are none of my obligations to it which I remember with more gratitude, than the acquiſition of ſome portion of that freedom of ſpirit, for which it has been always diſtinguiſhed. The medical ſocieties of ſtudents which have been conducted with decency and regularity, have in this, as well as in other reſpects, produced the beſt effects. In theſe, they have been taught to feel and exerciſe their own powers,

to arrange their ideas, and to expreſs them with facility ; and that honourable emulation has been excited, which is a principal ſpring of diligence and activity. Let me take this opportunity of doing juſtice to the merit of ſeveral gentlemen, who have, within theſe few years, done honour to this medical college by their inaugural diſſertations. In theſe, ſeveral important inveſtigations have been carried on, by a ſet of accurate and well-conducted experiments, under the direction of my learned and ingenious colleagues. This method of giving a ſpecimen of a young phyſician's genius, is attended with ſo many advantages, is ſo creditable to himſelf, and ſo uſeful to the public, that I ſhould be extremely ſorry to ſee it fall again into diſuſe.—But to return.

I ſhall now endeavour to ſhew, that the confinement of the ſtudy and practice of phyſic, entirely to a claſs of men who live by it as a profeſſion, is unfavourable to the progreſs of the art.

Nothing can ſo effectually tend to the improvement of an art, as the making it the intereſt of thoſe who practice it to contribute to its improvement. But it happens unfortunately that the ſpirit and application required to the advancement of medicine, is often checked by a neceſſary attention to private intereſt. Phyſicians are influenced by the ſame general motives of action with other men. Some of them love medicine, and would gladly devote their time and attention to it, ſo far as their ſituation could admit; others practice it merely as a trade. But the ſtate of our profeſſion is ſingular. A common

common artificer has no other way of rendering himſelf eminent in his trade, but by excelling in it. Of this, all mankind are judges. If he is a bad workman, no addreſs or qualifications of any other kind can avail him. No gentleman can hope to riſe in the profeſſion of the law, who does not poſſeſs the abilities of a lawyer. The proofs of his knowledge, ingenuity, and eloquence are daily exhibited to the world, and their value is duly aſcertained. The public have the ſame opportunity of eſtimating the merits of a divine. In ſhort, every man's merit, in his profeſſion, may be well known to the public; and is in general ſuitably rewarded. The ſcience of medicine alone is kept ſo carefully concealed from the world, and the art muſt neceſſarily be practiſed in ſo private a manner, as renders it difficult for the public to form a

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juſt eſtimate of a phyſician's knowledge from the ſucceſs of his practice. Accordingly, in no other profeſſion is the reward of merit ſo uncertain. If a phyſician is only acquainted with the outlines of practice, and has a good ſhare of addreſs and common ſenſe, he may ſucceed well. This ſucceſs is not ſurpriſing, if he is generally eſteemed as a man of genius and knowledge in other ſubjects; becauſe, it is preſumed, that theſe will extend to his own profeſſion. But it is more unaccountable, though the caſe frequently occurs, to ſee phyſicians riſing to great eminence, who, far from poſſeſſing learning or abilities of any kind, are known to be men of weak underſtandings.—Thoſe people ſeem to have a ſtrange idea of phyſic who truſt their lives in the hands of a man, whoſe diſcernement and

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common ſenſe they would deſpiſe on any other occaſion.

The check which the improvement of medicine muſt receive, from witholding the reward juſtly due to thoſe who excel in it, is ſufficiently obvious—A phyſician, when he ſets out in the world, ſoon perceives that the knowledge moſt profitable for him, is not that merely of his profeſſion. What he finds more eſſential, are the various arts of inſinuation and oſtentation. This leads to views very different from thoſe of genius and ſcience. To his real merit as a phyſician, he cannot eaſily find a patron, becauſe none are judges of this but thoſe of his own profeſſion, whoſe intereſt it often is to have it concealed.

By what I have ſaid, I mean only to repreſent the diſadvantages naturally conſequent on leaving it to phyſicians to judge of the merits of their brethren. It is putting human virtue to too ſevere a trial, and indeed it is a treſpaſs againſt the moſt obvious maxims of prudence and humanity, to ſuffer people to be tried by judges whoſe intereſt it is to condemn them. Nor do I mean, in making an obſervation which is equally applicable to every claſs of men, to include all the individuals in our profeſſion. There is a virtue found among many of them, which can ſtand the ſevereſt teſt; and there is an elevation of mind, that generally accompanies genius, which renders thoſe who poſſeſs it equally ſuperior to the ſuggeſtions of envy or intereſt, and to all the low arts of diſſimulation. The difficulties which regular phyſicians encounter

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in attempting to introduce any improvement in practice, is one of the principal cauſes which induces ſuch of them as love the ſcience, to turn their attention to ſome other branch of medicine, which they can cultivate with more ſafety and freedom. In all theſe, their diſcoveries have been numerous and uſeful. But how rapid a progreſs would the practical part of medicine make, if phyſicians were at equal liberty to improve it, under the inſpection and patronage of men qualified to judge of their merit, and who were under no temptation, from ſiniſter motives, to depreciate it?

It were to be wiſhed, that ingenious men would devote half the time to the ſtudy of nature, which they uſually give to that of opinions. If a gentleman has a turn for obſervation, the natural hiſtory

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of his own ſpecies is ſurely a more intereſting ſubject, and affords a larger ſcope for the diſplay of genius, than any other branch of natural hiſtory. If ſuch men were to claim their right of inquiry into a ſubject that ſo nearly concerns them, the good effects in regard to medicine would ſoon appear. They would have no intereſt ſeparate from that of the art. They would detect and expoſe aſſuming ignorance, and would be the judges and patrons of modeſt merit. Caſes often occur where a phyſician ſees his patient haſtening to diſſolution; he knows a remedy that affords ſome proſpect of ſaving his life; but it is not agreeable to common practice, and is dangerous in its operation. Here is an unhappy dilemma. If he gives the remedy, and the patient dies, he may be ruined; for his conduct will be watched with a malignant eye.

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But if the ſcheme of gentlemen of fortune applying to the ſtudy of phyſic ſhould take place, the encouragement and aſſured protection of knowing and diſintereſted judges, would animate a phyſician in his practice. Such judges, not fettered by early prejudices, unawed by authority, and unbiaſſed by intereſt, would canvaſs with freedom all the commonly received principles of medicine, and expoſe the uncertainty of many of thoſe maxims of which a phyſician dares not ſeem to doubt.

There are ſome advantages, which gentlemen who ſtudy medicine only as an intereſting branch of natural philoſophy, poſſeſs, beyond phyſicians by profeſſion. A phyſician, amidſt the neceſſary duties and anxieties of an extenſive practice, has little leiſure to attend to any ſubject

ject that is not directly connected with his buſineſs; nor does he always poſſeſs that tranquillity of mind which is ſo requiſite in every kind of inveſtigation, and particularly in planning and conducting a train of experiments. Lord Bacon had as enlarged views in medicine, of its deficiencies, and of the proper method of ſupplying them, as perhaps any phyſician who ever wrote. Dr. Hales has been one of its greateſt benefactors, by his diſcoveries, by the openings he made in different branches of the ſcience, which have ſince been further proſecuted, but principally by the excellent example he ſet of ingenious and accurate experimental inveſtigation. Cornaro, a Venetian nobleman, when ſome years turned of fourſcore, compoſed a little treatiſe on regimen, written with ſingular candour, ſimplicity, and preciſion. With more pleaſure

ſure could I name Mr. Boyle on this occaſion, had not his credulity leſſened that eſteem, which his diligence, genius, and many virtues, ſo well merited.

But, not to inſiſt further on arguments to ſhew, that there is leſs reaſon to expect improvements in our profeſſion, while it continues on its preſent narrow footing, I ſhall only obſerve, that it appears from the hiſtory of phyſic, that the improvements in the practical parts of it, have ſeldom been owing to thoſe who valued themſelves upon being regular, ſyſtematic, rational practitioners; nay, what is more extraordinary, ſuch improvements have been often oppoſed by them with keenneſs and acrimony, and ſeldom adopted till after a long ſtruggle. I could give inſtances of this in the caſe of bliſters, opiates, Peruvian bark, antimony, mercury,

mercury, inoculation of the ſmall-pox, and I may add, the cool regimen in fevers. Many important diſcoveries relating to the cure of diſeaſes, have been made by accident; and ſome valuable remedies have been communicated to us by the natives of America, and other illiterate nations. But, till of late, it would be difficult to point out many ſolid improvements in practice which have been the reſult of reaſoning, or of any regular train of obſervations or experiments. On the contrary, improvements that have been offered to the world, and which appealed for their juſtneſs to experience, have been uſually adopted, not upon repeated and more accurate trials, but upon the authority of great names, or from the prevailing philoſophy of the times.

There

There has been much reaſon to complain, that the diſcoveries of thoſe men, who were not of the medical faculty, have not been always examined with that candour, which their importance and ſucceſs required. Yet from ſuch men very ſubſtantial improvements may ſometimes be expected. Even quacks poſſeſs ſome advantages in their practice beyond regular phyſicians, as they ſeldom can ſuffer much, either in their intereſt or reputation, from the bad ſucceſs of their experiments. But they have another advantage above the regular phyſician, from having more extenſive practice. I grant, however, that the ignorance and inattention of moſt of theſe men, makes them profit but little, in proportion to what might be expected, from their experience, and unfettered practice; and I own too, that little regard can be had to their ve-

racity, in their accounts of cures. But it is a phyſician's duty, to ſearch for knowledge from all ſources, however impure and contemptible; and he may avail himſelf of that experience, which the empiric himſelf is neither able nor willing to turn to account. It was from ſtrolling chymiſts and the loweſt artificers, and not from the ſchools of philoſophy, that Mr. Boyle drew that large and uſeful collection of facts with which he has enriched many branches of ſcience. I muſt however obſerve, with pleaſure, that the ſame freedom of inquiry, which has enlightened every other branch of natural knowledge, begins now to extend to medicine; that the tyranny of authority and ſyſtems declines apace; and that there is a fair proſpect of the ſcience being rebuilt on the more ſolid baſis of nature, on facts, and an accurate induction from them.

It

It is ſaid by thoſe who inſiſt on the propriety of confining the ſtudy of phyſic to a claſs of men who live by it as a profeſſion, That the ſcience is ſo abſtruſe, that it cannot be underſtood but by a perſon who devotes himſelf entirely to that ſtudy. The little progreſs it has made, notwithſtanding the labours of ſo many ingenious and learned men wholly directed to its cultivation, is brought as a proof of its difficulty. It is ſaid, that if people were encouraged to ſtudy phyſic who are not regularly bred to it, and who do not intend to follow it as a profeſſion, quacks would be multiplied, and patients would loſe that confidence in the phyſician, which is as neceſſary for their own ſakes as for his. It is further ſaid, that a ſmattering of phyſic could tend only to fill people's minds with imaginary diſeaſes,

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and apprehenſions of danger upon ſlight indiſpoſitions.

Theſe reaſons have appeared ſo powerful to many of the faculty, that they have watched with a jealous eye over all intruders, and have often treated them with abuſe and ridicule, even when it was apparent that they were actuated purely by motives of humanity. It would not be candid to aſcribe this to any ſordid views: Enlarged knowledge produces a liberal and unſuſpicious ſpirit; and no profeſſion can boaſt of more men of learning, ingenuity, and liberal education, than ours. But as the reaſons, above aſſigned, for the abſolute confinement of the ſtudy of medicine to phyſicians, do not appear to me ſatisfactory, I ſhall take the liberty of examining them particularly.

The

The difficulties, which a gentleman, not intended for the profeſſion, is to encounter, in acquiring ſome ſhare of medical knowledge, are greatly exaggerated. Some of them are real and unavoidable; but the greater number are either imaginary, or ariſe from the myſterious form in which the ſcience lies concealed, unneceſſarily involved in technical terms, and incumbered with inquiries of no utility, or not applicable to practice. Medicine, in one point of view, is a ſcience of boundleſs extent; but this ſhould not deter any perſon from the ſtudy of it, as the ſame might be ſaid of every branch of natural knowledge. In our proſecution of any of them, the farther we advance, the more ſenſible we become of their difficulty, and of the further improvement of which they are capable. The argument, however, brought to ſhew the difficulty

ficulty and intricacy of the medical art from the ſlowneſs of its improvement; (notwithſtanding the joint labours of ſo many phyſicians employed in this ſingle purſuit) may be obviated, by obſerving, that if by medicine is meant, the art of preſerving health and curing diſeaſes, the truth is, that very few phyſicians of genius have endeavoured to cultivate it, and that ſome of thoſe few have attempted it in a way that could not reaſonably be expected to ſucceed.

It will be readily owned that a phyſician who has regularly ſtudied the ſeveral parts of medicine, muſt poſſeſs great advantages, even in regard to practice, above a gentleman, who has only attended to them in a more curſory manner. But there is no reaſon to ſay, that one muſt be a perfect maſter of theſe parts, before

before he can attain ſuch a knowledge of the practice, as may be in ſome degree uſeful, when the aſſiſtance of an able phyſician cannot be procured. Surely it is not a matter of ſuch difficulty, for a gentleman of a liberal education, to learn ſo much of medicine as may enable him to underſtand the beſt books on the ſubject, and to judge of the merit of thoſe phyſicians to whom he commits the charge of his own health, and the health of thoſe more immediately under his care and protection. It is difficult to aſcertain to what extent a gentleman ſhould be inſtructed in medicine, before he can pretend to practice as above mentioned. The moſt that can be required of him, is, ſuch a degree of knowledge as is commonly poſſeſſed by practitioners of acknowledged merit, and ſuch knowledge as phyſicians, educated in different ſchools

of

of medicine, and attached to different theories, concur in judging eſſential.—In this view, it is evident, that he ſhould know as much anatomy as is neceſſary to underſtand the animal oeconomy in its ſound and morbid ſtate; that he ſhould know the principles of chymiſtry, particularly in their application to pharmacy and the other parts of medicine; that he ſhould be acquainted with the hiſtory of diſeaſes, eſpecially with thoſe circumſtances that ſerve to diſtinguiſh one from an other, when apparently ſimilar, but really of a different nature, and requiring a different method of cure; and that he ſhould be inſtructed in the nature of the uſual remedies. The knowledge of theſe laſt mentioned branches, ſhould be drawn from medical writers of diſtinguiſhed ſagacity, accuracy, and candour; but, above all, from obſervation

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and experience, the pureſt and leaſt fallible ſource of medical ſcience. He may derive ſingular advantages from the converſation of an ingenious and experienced phyſician, who is able to direct his ſtudies, to diſtinguiſh between genuine and pretended facts, and, amidſt the load of learned rubbiſh with which medicine is encumbered, to ſelect what is truly uſeful. Such a courſe of ſtudy as I have deſcribed, though ſomewhat formidable at firſt view, is really not ſo to thoſe who love ſcience, and who have laid a tolerable foundation of learning. There are, indeed, difficult caſes that often occur in practice, which require the aſſiſtance of the greateſt medical diſcernment; but any man of good underſtanding may comprehend the general principles of the theory and practice of phyſic, if the facts,

on which they are founded, are fully and clearly laid before him.

The objection to laying medicine open to the world like other ſciences, from its tendency to multiply quacks, and to leſſen the authority of the phyſician, is not well founded. It is not poſſible to confine the practice entirely to regular phyſicians. Caſes are continually occurring of people labouring under diſeaſes, who can have no acceſs to the aſſiſtance of one of the faculty. It would be barbarous to hinder thoſe from uſing ſuch remedies as appeared to them moſt likely to afford them relief; or to prohibit a friend or a byſtander from giving their aſſiſtance in ſuch a ſituation. In fact, as every perſon preſcribes occaſionally, the only queſtion is, whether they ſhould receive any aſſiſtance from art, or be left

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to act as their fancy may lead them. If, by witholding this aſſiſtance, every diſeaſe, where a phyſician was not conſulted, was to be left to nature alone, phyſicians would have a plauſible excuſe for keeping the world in ignorance; becauſe it might be alledged, that more diſeaſes would be cured by the efforts of unaſſiſted nature, than by the random management of people imperfectly inſtructed in medicine. But, in reality, this is never the caſe in diſeaſes of any conſequence. I ſhall give an example, in the general treatment of fevers among the lower claſs of people, when they are deprived of medical aſſiſtance.—The unhappy patients are generally confined to a cloſe room, where they breathe a hot and a putrid air; every method is tried to raiſe a ſweat; they are loaded with bedcloaths; ſometimes they are made to drink ſpiced

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and ſtrong liquors; at other times large quantities of warm water gruel, although their ſtomach loathe it, and it occaſion flatulence, ſickneſs, and oppreſſion. If, in conſequence of great heat or delirium, they attempt to get out of bed, they are confined to it by force; nor are they ſuffered to change their bed or body-linen, till the fever is quite removed; by which means the air becoming more putrid, aggravates the ſymptoms, and makes the diſeaſe contagious.—In ſuch caſes, becauſe the patients have no phyſician, and take no medicine, the diſeaſe is ſaid to be left to nature. But this is a miſtake. If ſuch patients had been really left to nature, they would have been treated very differently. They would have been indulged in whatever was agreeable to them; they would have breathed cool and freſh air; they would not have been teazed

teazed to eat or drink beyond what their appetite demanded; they would have been indulged with cold water or ſmall beer in what quantity they pleaſed; they would have been ſuffered to get out of bed and to enjoy the cold air, or to have had few bed clothes, with liberty to throw out their limbs without controul; their linen would have been changed daily, and every thing kept clean and ſweet about them. Similar inſtances might be produced from other diſeaſes. Patients are ſo far from being left to nature, when no phyſician is called, that they are commonly oppreſſed with a ſucceſſion of infallible cures recommended by quacks, or by their weak and officious friends.

I muſt here obſerve, that there is a ſuſpicion entertained againſt phyſicians, as rejecting all remedies propoſed by thoſe who

who do not belong to the faculty, eſpecially if their compoſition is kept a ſecret. Whatever the caſe may have been formerly, or may ſtill be among a few individuals, the cenſure is now ill founded. Every remedy which has the appearance of uſefulneſs, meets with a fair trial from the gentlemen of our profeſſion. I ſpeak this with the more confidence in regard to thoſe of the Britiſh dominions, where medicine is in general practiced with much candour and humanity; but it would be an imputation on their knowledge, and indeed on their common ſenſe, if they were to give credit to all the accounts of cures which daily impoſe on the credulity of mankind.

Phyſicians, in their early practice, are ſometimes controuled and intimidated from doing what they think neceſſary

for

for the recovery of their patients; not by people whoſe education and knowledge ſhould make their opinions reſpectable, but by the moſt ignorant, and conſequently the moſt conceited part of mankind. Phyſicians have nothing to fear from the intruſion of men of ſcience who have turned their attention to medicine. Such will be modeſt in proportion to their knowledge of the ſubject, and will be the readieſt to call for the aſſiſtance of a phyſician of experience and abilities, to reſpect his judgment, and to enforce his preſcriptions; while, at the ſame time, they may ſuggeſt what may be uſeful to the ableſt of the profeſſion.

If we conſider the ſituation of a young phyſician of genius, brought forward and ſupported in his profeſſion under the honourable patronage of thoſe who are judges

ges of that genius; and that of another, deſtitute of ſuch aſſiſtance, and compelled by neceſſity to attend to the prejudices, and to humour the caprices of the ignorant and impertinent intruders into his office; how pleaſant, how creditable is the one? how humiliating the other, to every man of ſpirit and ſenſibility?

I have thus endeavoured to ſhew that, by laying medicine open, and encouraging men of ſcience and abilities, who do not belong to the profeſſion, to ſtudy it, the intereſts of humanity would be promoted, the ſcience would be advanced, its dignity more effectually ſupported, and ſucceſs more certainly ſecured to every individual, in proportion to his real merit.

Before

Before I conclude, I muſt obſerve, that ſuch objections as are made againſt any perſon pretending to judge of medical ſubjects, who has not been regularly bred to the profeſſion, were formerly urged againſt the reformers from Popery. Beſides the divine authority claimed by the church, it was ſaid, that a ſet of men, who devoted their whole time and ſtudies to ſo deep and complicated a ſubject as theology, were the only proper judges of whatever belonged to it; that calling their authority in queſtion, was hurting the cauſe of religion, and lowering the ſacerdotal character. Yet experience has ſhewn, that ſince the Laity have aſſerted their right of inquiry into theſe ſubjects, theology, conſidered as a ſcience, has been improved; the real intereſts of religion have been promoted; and the clergy have become a more learned, a more uſeful, and even a more reſpectable body

of men, than they ever were in the days of their greateſt power and ſplendor.

I hope I have advanced no opinions in theſe Lectures that tend to leſſen the dignity of a profeſſion which has always been conſidered as moſt honourable and important. But, I apprehend, this dignity is not to be ſupported by a narrow, ſelfiſh, corporation-ſpirit; by ſelf-importance; by a formality in dreſs and manners, or by an affectation of myſtery. The true dignity of phyſic is to be maintained by the ſuperior learning and abilities of thoſe who profeſs it, by the liberal manners of gentlemen, and by that openneſs and candour, which diſdain all artifice, which invite to a free inquiry, and thus boldly bid defiance to all that illiberal ridicule and abuſe, to which medicine has been ſo much and ſo long expoſed.

FINIS.